

U.S. DEPARTMENT OF COMMERCE

Robert A. Mosbacher, Secretary

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

John A. Knauss, Under Secretary for Oceans and Atmosphere

NATIONAL ENVIRONMENTAL SATELLITE, DATA, AND INFORMATION SERVICE

Thomas N. Pyke, Jr., Assistant Administrator

DECEMBER 1989 NUMBER 544 - Part II

Solar-Geophysical Data comprehensive reports

Data for June 1989

International Standard Serial Number: 0038-0911

Library of Congress Catalog Number: 79-640375 //r81

NATIONAL GEOPHYSICAL DATA CENTER

Michael A. Chinnery, Director

Boulder, Colorado

Subscription information is on the inside back cover.

S O L A R - G E O P H Y S I C A L D A T A

NUMBER 544

(Issued in Two Parts)

Editor: Helen E. Coffey

Chief: Joe H. Allen
Solar-Terrestrial Physics Division

Staff: Daniel C. Wilkinson
Carol Weathers
John A. McKinnon

C O N T E N T S

PART I (PROMPT REPORTS)

| | Page |
|---|----------|
| DETAILED INDEX FOR 1989. | 2 |
| DATA FOR NOVEMBER 1989 | 3- 55 |
| DATA FOR OCTOBER 1989. | 57-151 |
| LATE DATA. | .153-159 |
| Cosmic Rays Huancayo Aug 89 | |
| Geomagnetic Sudden Commencements Jul-Sep 89 | |

PART II (COMPREHENSIVE REPORTS)

| | Page |
|------------------------------------|----------|
| DETAILED INDEX FOR 1989. | 2 |
| DATA FOR JUNE 1989 | 3-143 |
| MISCELLANEOUS DATA | .145-151 |
| Meudon Carte Synoptique Apr-May 89 | |
| Solar Proton Events Jan 76-Nov 89 | |

DETAILED INDEX OF OBSERVATIONS PUBLISHED IN "SOLAR-GEOPHYSICAL DATA"

| CODE | KIND OF OBSERVATION | APR 89 | MAY | JUN | JUL | AUG | SEP | OCT | NOV |
|---|--|--|---------|---------|---------|---------|---------|---------|---------|
| A. SOLAR AND INTERPLANETARY EVENTS | | | | | | | | | |
| A.1 | Sunspot Drawings | 538A 55 | 539A 63 | 540A 44 | 541A 57 | 542A 67 | 543A 77 | 544A 67 | |
| A.2aa | Internat. Provisional Sunspot Numbers | 537A 11 | 538A 13 | 539A 15 | 540A 13 | 541A 13 | 542A 27 | 543A 29 | 544A 27 |
| A.2c | American Sunspot Numbers | 537A 11 | 538A 13 | 539A 15 | 540A 13 | 541A 13 | 542A 27 | 543A 29 | 544A 27 |
| A.3a | Mt. Wilson Magnetograms | 538A 55 | 539A 63 | 540A 44 | 541A 57 | 542A 67 | 543A 77 | 544A 67 | |
| A.3b | Mt. Wilson Sunspot Magnetic Class | 538A 85 | 539A 94 | 540A 74 | 541A 88 | 542A 98 | 543A107 | 544A 98 | |
| A.3c | Kitt Peak Magnetograms | 538A 55 | 539A 63 | 540A 44 | 541A 57 | 542A 67 | 543A 77 | 544A 67 | |
| A.3d | Mean Solar Magnetic Field (Stanford) | 537A 33 | 538A 44 | 539A 50 | 540A 33 | 541A 45 | 542A 56 | 543A 56 | 544A 54 |
| A.3e | Stanford Magnetograms | 538A 55 | 539A 63 | 540A 44 | 541A 57 | 542A 67 | 543A 77 | 544A 67 | |
| A.4 | H-alpha Filtergrams | 538A 55 | 539A 63 | 540A 44 | 541A 57 | 542A 67 | 543A 77 | 544A 67 | |
| A.6 | H-alpha Synoptic Charts | 538A 46 | 539A 54 | 540A 36 | 541A 48 | 542A 58 | 543A 60 | 544A 58 | |
| A.6b | Active Region Carte Synoptique (Paris) | 544B146 | 544B148 | | | | | | |
| A.6c | Stanford Solar Mag Field Synoptic Maps | 538A 48 | 539A 56 | 540A 38 | 541A 50 | 542A 60 | 543A 62 | 544A 60 | |
| A.6d | Kitt Peak " Mag Field Synoptic Maps | 538A 47 | 539A 62 | 540A 37 | 541A 56 | 542A 66 | 543A 74 | 544A 66 | |
| A.6e | Mass Ejections from the Sun | 542B 61 | 543B 94 | 544B125 | | | | | |
| A.6f | Active Prominences and Filaments | 542B 62 | 543B 95 | 544B127 | | | | | |
| A.6g | Sac Peak Coronal Line Synoptic Maps | 538A 50 | 539A 58 | 540A 40 | 541A 52 | 542A 62 | 543A 64 | 544A 62 | |
| A.7h | Coronal Line Emission (Sac Peak) | 538A 55 | 539A 63 | 540A 44 | 541A 57 | 542A 67 | 543A 77 | 544A 67 | |
| A.8aa | 2800 MHz - Solar Flux (Ottawa) | 537A 11 | 538A 13 | 539A 15 | 540A 13 | 541A 13 | 542A 27 | 543A 29 | 544A 27 |
| A.8ac | 2800 MHz - Adj. Solar Flux (Ottawa) | 537A 11 | 538A 13 | 539A 15 | 540A 13 | 541A 13 | 542A 27 | 543A 29 | 544A 27 |
| A.8g | Adjusted Daily Solar Fluxes (Sagamore) | 537A 11 | 538A 13 | 539A 15 | 540A 13 | 541A 13 | 542A 27 | 543A 29 | 544A 27 |
| A.10a | Interferometric Chart (164 MHz) Nancy | 538A140 | 539A156 | 539A 39 | | 541A 34 | 542A 47 | 543A 49 | |
| A.10c | East-West Scans - 21 cm - Fleurs | 537A 27 | 538A 33 | 539A 38 | 540A 28 | 541A 32 | 543A166 | 543A 47 | 544A 46 |
| A.10d | East-West Scans - 43 cm - Fleurs | 537A 28 | 538A 34 | 539A 38 | 540A 29 | 541A 33 | 543A167 | 543A 48 | 544A 47 |
| A.10e | East-West Scans - 10 cm - Ottawa | 537A 26 | 538A 32 | 539A 37 | 540A 27 | 541A 31 | 542A 46 | 543A 46 | 544A 45 |
| A.10f | East-West Scans - 3 cm - Toyokawa | 537A 25 | 538A 31 | 539A 36 | 540A 26 | 541A 30 | 542A 45 | --- | --- |
| A.11g | Solar X-ray GOES (graphs/event table) | 542B 53 | 543B 84 | 544B116 | | | | | |
| A.11k | Solar UV NOAA-9 | May 86-Dec 87 in 541B178 | | | | | | | |
| A.11l | Solar UV NIMBUS7 | Nov 78-Oct 84 in 542B 82 | | | | | | | |
| A.12e | Solar Particles (IMP H & J) | Sep 85-May 86 in 525B 60; Jul 86-Aug 87 in 539B112 | | | | | | | |
| A.13e | Solar Plasma (IMP H & J) | 541B147 542B 52 543B 83 | | | | | | | |
| A.13f | Solar Wind (Pioneer 12) | Jan-Dec 88 in 536A153 | | | | | | | |
| A.16a | SMM Solar Irradiance | Feb 80-Oct 87 in 530B 64 | | | | | | | |
| A.16b | NIMBUS Solar Irradiance | Nov 78-Jul 89 in 534B114 | | | | | | | |
| A.16c | ERBS Solar Irradiance | 1984-88 in 538B101 | | | | | | | |
| A.17 | Interplanetary Mag Field (Pioneer 12) | Jan-Jun 88 in 533A130; Jul 88 in 536A152 | | | | | | | |
| A.17c | Inferred Interplanetary Mag Field | 1984-1988 data in 542A168 | | | | | | | |
| B. IONOSPHERIC RADIO PROPAGATION | | | | | | | | | |
| B.52 | Field Strength Graphs-North Atlantic | 538A134 | | | | | | | |
| B.53 | Quality Indices on Paths to Germany | 538A136 | | | | | | | |
| C. SOLAR FLARE-ASSOCIATED EVENTS | | | | | | | | | |
| C.1a | H-alpha Flares | 537A 15 | 538A 16 | 539A 18 | 540A 16 | 541A 17 | 542A 31 | 543A 33 | 544A 31 |
| C.1ba | H-alpha Flare Groups | 542B 4 | 543B 4 | 544B 4 | | | | | |
| C.1d | Flare Patrol Observations | 537A 24 | 538A 30 | 539A 35 | 540A 25 | 541A 29 | 542A 44 | 543A 44 | 544A 44 |
| C.1d | Flare Patrol Observations | 542B 26 | 543B 38 | 544B 54 | | | | | |
| C.3 | Radio Bursts Fixed Freq. | 542B 28 | 543B 40 | 544B 56 | | | | | |
| C.3 | Radio Bursts Fixed Freq. Selected | 537A 30 | 538A 36 | 539A 40 | 540A 31 | 541A 35 | 542A 48 | 543A 50 | 544A 48 |
| C.4d | Radio Bursts Spectral (Culgoora) | Dec 88 in 534A129 | | | | | | | |
| C.4e | Radio Bursts Spectral (Weissenau) | 538A116 | 539A135 | 540A122 | 541A122 | 542A140 | 543A135 | 544A130 | |
| C.4f | Radio Bursts Spectral (Sagamore Hill) | 538A116 | 539A135 | 540A122 | 541A122 | 542A140 | 543A135 | 544A130 | |
| C.4i | Radio Bursts Spectral (Bleien) | --- | --- | --- | --- | 541A122 | 542A140 | --- | |
| C.4k | Radio Bursts Spectral (Learmonth) | 538A116 | 539A135 | 540A122 | 541A122 | 542A140 | 543A135 | 544A130 | |
| C.4l | Radio Bursts Spectral (Pahua) | 538A116 | 539A135 | 540A122 | 541A122 | 542A140 | 543A135 | 544A130 | |
| C.6 | Sudden Ionospheric Disturbances | 538A111 | 539A129 | 540A114 | 541A118 | 542A133 | 543A128 | 544A124 | |
| D. GEOMAGNETIC & MAGNETOSPHERIC EVENTS | | | | | | | | | |
| D.1a | Geomagnetic Indices | 538A129 | 539A150 | 540A144 | 541A137 | 542A158 | 543A158 | 544A147 | |
| D.1ba | 27-day Chart of Kp Indices | 538A131 | 539A152 | 540A146 | 541A139 | 542A160 | 543A160 | 544A149 | |
| D.1cb | Monthly Mean aa Indices | 538A132 | 539A153 | 540A147 | 541A140 | 542A161 | 543A161 | | |
| D.1d | Principal Magnetic Storms | 538A133 | 539A154 | 540A148 | 541A141 | 542A162 | 543A162 | 544A151 | |
| D.1f | Sudden Commencements/Flare Effects | 540A154 | 541A144 | 541A145 | 544A157 | 544A158 | 544A159 | | |
| D.1g | Equatorial Indices Dst | Aug-Dec 87 in 534A163; Mar-Apr 88 in 541A146 | | | | | | | |
| F. COSMIC RAYS | | | | | | | | | |
| F.1a | Cosmic Ray Neutron Cts (Deep River) | 538A123 | 539A147 | 540A139 | 541A136 | 542A153 | 543A151 | 544A140 | |
| F.1b | Cosmic Ray Neutron Cts (Climax) | 538A123 | 539A147 | 540A139 | 541A136 | 542A153 | 543A151 | 544A140 | |
| F.1h | Cosmic Ray Neutron Cts (Thule) | 538A123 | 539A147 | 540A139 | 541A136 | 542A153 | 543A151 | 544A140 | |
| F.1i | Cosmic Ray Neutron Cts (Kiel) | 538A123 | 539A147 | 540A139 | 541A136 | 542A153 | 543A151 | 544A140 | |
| F.1j | Cosmic Ray Neutron Cts (Tokyo) | 538A123 | 539A147 | 540A139 | 541A136 | 542A153 | 543A151 | 544A140 | |
| F.1l | Cosmic Ray Neutron Cts (Huancayo) | 538A123 | 540A152 | 542A167 | 541A136 | 544A156 | | | |
| H. MISCELLANEOUS | | | | | | | | | |
| H.60 | IUWDS Alert Periods | 537A 4 | 538A 4 | 539A 4 | 540A 4 | 541A 4 | 542A 19 | 543A 20 | 544A 19 |

The entry "538A 55" under Apr 1989, for example, means that the sunspot drawings for Apr 1989 appear in SOLAR-GEOPHYSICAL DATA No. 538, Part I, and that they begin on page 55. "A" denotes Part I and "B", Part II. Blanks indicate data not yet received and dashes mark unavailable data.

C O N T E N T S

Comprehensive Reports DATA FOR JUNE 1989 Number 544 Part II

| | Page |
|---|----------|
| MEUDON CARTE SYNOPTIQUE (Unavailable at time of publication.) | |
| Active Regions and Filaments | |
| Synoptic Solar Maps | |
| SOLAR FLARES | |
| H-alpha Solar Flare Groups. | 4- 53 |
| Intervals of No Flare Patrol Observation. | 54 |
| Number of Solar Flares August 1966-present. | 55 |
| SOLAR RADIO BURSTS AT FIXED FREQUENCIES. | 56-114 |
| INTERPLANETARY SOLAR PARTICLES AND PLASMA | |
| IMP 8 Solar Wind. | .115 |
| SOLAR X-RAY RADIATION FROM GOES SATELLITE Graphs | .116-120 |
| Preliminary Event List. | .121-123 |
| Preliminary Daily Average Background. | .124 |
| MASS EJECTIONS FROM THE SUN. | .125-126 |
| ACTIVE PROMINENCES AND FILAMENTS | .127-142 |
| SOLAR IRRADIANCE | .143 |

4
Jun 89

H α SOLAR FLARES

JUNE 1989

| Grp # | Sta | Start Day | 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) | |
| 0001 | | 01 01172 | 01201 | 0132 | S20 | E78 | 5517 | 06 | 7.0 | 15 | SF C 1.9 | | | | 55 | | D | |
| | LEAR | 01 0117 | 0120 | 0131 | S21 | E76 | 5517 | 06 | 6.9 | 14 | SF C 1.9 | 3 | E | | 65 | | | |
| | VORO | 01 0119 | 0121 | 0132 | S19 | E80 | 5517 | 06 | 7.1 | 13 | SF | 2 | C | 0121 | 45 | | D | |
| 0002 | URUM | 01 0400E | 0409 | 0414D | S20 | E74 | 5517 | 06 | 6.8 | 14D | SN | | | C | 16 | | A | |
| 0003 | | 01 04175 | 04256 | 0442 | S22 | W16 | 5515 | 05 | 31.0 | 25 | SN C 2.1 | | | | 52 | 0.9 | D | |
| | LEAR | 01 0417 | 0431 | 0453 | S22 | W17 | 5515 | 05 | 31.0 | 36 | SF C 2.1 | 3 | E | | 18 | | | |
| | ABST | 01 0422 | 0425 | 0430 | S21 | W16 | 5515 | 05 | 31.0 | 8 | SN | | C | 0425 | 87 | 0.9 | D | |
| 0004 | ABST | 01 0448E | 0448U | 0456 | S18 | E20 | 5513 | 06 | 2.7 | 8D | 1F | | P | 0448 | 87 | | D | |
| 0005 | | 01 0637* | 0642* | 0654 | S21 | E74 | 5517 | 06 | 6.9 | 17 | SF | | | | 29 | | | |
| | LEAR | 01 0637 | 0642 | 0647 | S21 | E73 | 5517 | 06 | 6.9 | 10 | SF | 3 | E | | 42 | | | |
| | LEAR | 01 0653 | 0654 | 0701 | S21 | E75 | 5517 | 06 | 7.0 | 8 | SF | 3 | E | | 16 | | | |
| 0006 | SVTO | 01 0802E | 0805U | 0854D | S15 | E75 | 5517 | 06 | 7.0 | 52D | SF | 2 | E | | 79 | | H | |
| 0007 | SVTO | 01 1015 | 1026 | 1113 | S16 | E71 | 5517 | 06 | 6.8 | 58 | SF | 2 | E | | 37 | | FH | |
| | | 01 1146 | | 1220 | No Flare Patrol | | | | | | | | | | | | | |
| | | 01 1229 | | 1247 | No Flare Patrol | | | | | | | | | | | | | |
| 0008 | HOLL | 01 1303 | 1305 | 1310 | S26 | E82 | | 06 | 7.9 | 7 | SF C 1.5 | 3 | E | | 62 | | H | |
| 0009 | HOLL | 01 1325 | 1330 | 1336 | N23 | W33 | 5506 | 05 | 30.1 | 11 | SF | 3 | E | | 11 | | | |
| 0010 | HOLL | 01 1357 | 1406 | 1412 | S20 | E71 | 5517 | 06 | 7.0 | 15 | SF | 3 | E | | 33 | | | |
| 0011 | HOLL | 01 1438 | 1441 | 1453 | S24 | W15 | 5511 | 05 | 31.4 | 15 | SF | 4 | E | | 18 | | | |
| 0012 | HOLL | 01 1527 | 1527 | 1530 | S20 | E72 | 5517 | 06 | 7.1 | 3 | SF | 4 | E | | 16 | | | |
| 0013 | HOLL | 01 1538 | 1538 | 1632 | S18 | W45 | 5505 | 05 | 29.3 | 54 | SF | 4 | E | | 20 | | F | |
| 0014 | HOLL | 01 1550 | 1551 | 1600 | S17 | W61 | 5510 | 05 | 28.1 | 10 | SF | 4 | E | | 18 | | | |
| 0015 | HOLL | 01 1558 | 1558 | 1603 | S18 | E70 | 5517 | 06 | 7.0 | 5 | SF | 4 | E | | 20 | | | |
| 0016 | | 01 1707 | 1709 | 1720 | S19 | E70 | 5517 | 06 | 7.0 | 13 | SF | | | | 43 | | | |
| | HOLL | 01 1707 | 1709 | 1722 | S19 | E70 | 5517 | 06 | 7.0 | 15 | SF | 4 | E | | 57 | | | |
| | RAMY | 01 1708E | 1712U | 1717 | S19 | E70 | 5517 | 06 | 7.0 | 9D | SF | 2 | E | | 29 | | | |
| 0017 | | 01 17455 | 1753 | 1817 | S20 | W16 | 5511 | 05 | 31.5 | 32 | SF C 1.5 | | | | 30 | | | |
| | RAMY | 01 1745 | 1752U | 1822D | S20 | W15 | 5511 | 05 | 31.6 | 37D | SF C 1.5 | 2 | E | | 29 | | | |
| | HOLL | 01 1750 | 1753 | 1817 | S21 | W17 | 5511 | 05 | 31.4 | 27 | SF C 1.5 | 4 | E | | 32 | | | |
| 0018 | HOLL | 01 2019E | 2021U | 2035D | S18 | E56 | 5517 | 06 | 6.1 | 16D | SF C 2.0 | 4 | E | | 46 | | | |
| 0019 | | 01 2100* | 2131* | 2201 | S18 | E67 | 5517 | 06 | 7.0 | 61 | 1N C 3.0 | | | | 122 | | K | |
| | RAMY | 01 2100 | 2132U | 2135D | S18 | E68 | 5517 | 06 | 7.0 | 35D | 1N | 2 | E | | 227 | | | |
| | HOLL | 01 2125 | 2131 | 2201 | S18 | E67 | 5517 | 06 | 7.0 | 36 | 1N C 3.0 | 3 | E | | 116 | | | |
| | HOLL | 01 2125 | 2147 | 2201 | S18 | E67 | 5517 | 06 | 7.0 | 36 | SF | | E | | 23 | | K | |
| 0020 | HOLL | 01 2202 | 2206U | 2219D | S15 | W64 | 5510 | 05 | 28.2 | 17D | SF | 3 | E | | 25 | | | |
| | | 01 2211 | | 2235 | No Flare Patrol | | | | | | | | | | | | | |
| | | 01 2246 | | 2329 | No Flare Patrol | | | | | | | | | | | | | |
| 0021 | HOLL | 01 2334E | 2338 | 2350 | S18 | E64 | 5517 | 06 | 6.8 | 16D | 1F C 2.4 | 3 | E | | 117 | | | |
| 0022 | PURP | 02 0030 | 0054U | 0109 | S16 | W66 | 5510 | 05 | 28.1 | 39 | 1F | | C | 0054 | 226 | | E | |
| 0023 | | 02 0130 | 0132 | 0137 | S22 | W21 | 5511 | 05 | 31.4 | 7 | SN | | | | 28 | 0.4 | DE | |
| | URUM | 02 0130 | 0132 | 0137 | S22 | W22 | 5511 | 05 | 31.4 | 7 | SN | | C | | 32 | 0.4 | D | |
| | PURP | 02 0131E | 0132U | 0133D | S23 | W20 | 5511 | 05 | 31.5 | 2D | SF | | P | 0132 | 25 | 0.3 | E | |
| 0024 | PURP | 02 0131 | 0132 | 0133 | N24 | W40 | 5505A | 05 | 30.1 | 2 | SN | | P | 0132 | 34 | 0.5 | E | |

H α SOLAR FLARES

5
Jun 89

JUNE 1989

| Grp # | Sta | Day | Start (UT) | Max (UT) | End (UT) | NOAA/USAF | | | Dur (Min) | Imp Opt | Xray | Obs See | Type | Area Measurement | | | Remarks | | |
|-------|------|-----|------------|----------|----------|-----------|-----|--------|-----------|---------|------|---------|-------|------------------|------|-----------|---------|----------------------|---------------|
| | | | | | | Lat | CMD | Region | | | | | | Mo | Day | Time (UT) | | Apparent (10-6 Disk) | Corr (Sq Deg) |
| 0025 | | 02 | 0145* | 02169 | 0244 | S16 | W70 | 5510 | 05 | 27.9 | 59 | SN | | | 40 | | D | | |
| | URUM | 02 | 0145 | 0216 | 0255D | S16 | W72 | 5510 | 05 | 27.7 | 70D | SN | C | | 32 | | D | | |
| | LEAR | 02 | 0217 | 0225 | 0244 | S15 | W69 | 5510 | 05 | 28.0 | 27 | SF | | 2 | E | 49 | | | |
| 0026 | | 02 | 02341 | 0236 | 0240 | S20 | E65 | 5517 | 06 | 7.1 | 6 | SN | | | 40 | | D | | |
| | URUM | 02 | 0234 | 0236 | 0240 | S19 | E65 | 5517 | 06 | 7.1 | 6 | SN | C | | 48 | | D | | |
| | LEAR | 02 | 0235 | 0236 | 0241 | S21 | E65 | 5517 | 06 | 7.1 | 6 | SF | | 2 | E | 32 | | | |
| 0027 | | 02 | 0414* | 04467 | 0521 | S18 | E60 | 5517 | 06 | 6.7 | 67 | 1N | C 9.8 | | 214 | 3.4 | EH | | |
| | LEAR | 02 | 0414 | 0446 | 0503 | S20 | E60 | 5517 | 06 | 6.8 | 49 | 2N | C 9.8 | 3 | E | 327 | | H | |
| | SVTO | 02 | 0442E | 0449 | 0504 | S17 | E60 | 5517 | 06 | 6.7 | 22D | 1N | C 9.8 | 2 | E | 142 | | H | |
| | ABST | 02 | 0443 | 0453 | 0556 | S17 | E60 | 5517 | 06 | 6.7 | 73 | 1N | | | C | 0453 | 174 | 3.4 | E |
| 0028 | | 02 | 06041 | 0606 | 0620 | S18 | E63 | 5517 | 06 | 7.0 | 16 | SN | M 2.0 | | 42 | 0.5 | F | | |
| | ISTA | 02 | 0604 | | 0621 | S18 | E62 | 5517 | 06 | 7.0 | 17 | 1N | | V | | | | F | |
| | HTPR | 02 | 0605 | 0606 | 0619 | S16 | E65 | 5517 | 06 | 7.2 | 14 | SN | | | 0606 | 40 | 0.5 | | |
| | LEAR | 02 | 0605 | 0606 | 0619 | S20 | E61 | 5517 | 06 | 6.9 | 14 | SF | M 2.0 | 3 | E | 44 | | | |
| 0029 | | 02 | 0635 | 0640 | 0708 | S15 | W70 | 5510 | 05 | 28.1 | 33 | 1B | | | 78 | | EFI | | |
| | HTPR | 02 | 0554E | | 0710 | S15 | W70 | 5510 | 05 | 28.0 | 76D | 1N | | | 0650 | 100 | | EI | |
| | ISTA | 02 | 0635E | | 0703 | S15 | W70 | 5510 | 05 | 28.1 | 28D | 1B | | V | | | | F | |
| | CATA | 02 | 0635 | 0640 | 0710 | S14 | W69 | 5510 | 05 | 28.1 | 35 | SB | | 2 | C | 0640 | 56 | | |
| 0030 | | 02 | 0650* | 0657* | 0726 | S18 | E61 | 5517 | 06 | 6.9 | 36 | SN | | | 42 | 1.2 | E | | |
| | HTPR | 02 | 0650 | 0657 | 0727 | S18 | E64 | 5517 | 06 | 7.1 | 37 | SN | | | 0657 | 30 | | | |
| | LEAR | 02 | 0714 | 0715 | 0723 | S19 | E59 | 5517 | 06 | 6.8 | 9 | SF | | 3 | E | 39 | | | |
| | ISTA | 02 | 0715 | | 0727 | S18 | E62 | 5517 | 06 | 7.0 | 12 | 1N | | V | | | | E | |
| | CATA | 02 | 0715 | 0715 | 0715D | S18 | E59 | 5517 | 06 | 6.8 | 12D | SB | | 2 | P | 0715 | 56 | 1.2 | |
| 0031 | HTPR | 02 | 0650 | 0657 | 0659 | S24 | W32 | 5515 | 05 | 30.9 | 9 | SF | | | 0657 | 20 | 0.2 | | |
| 0032 | KHAR | 02 | 0716E | 0729 | 0743 | S24 | E90 | 5520 | 06 | 9.2 | 27D | SN | | 2 | P | 0725 | 180 | | RX |
| 0033 | KHAR | 02 | 0716E | | 0740 | S17 | W70 | 5510 | 05 | 28.1 | 24D | SF | | 2 | P | 0725 | 70 | | DH |
| 0034 | | 02 | 08191 | 08214 | 0832 | N20 | W42 | 5506 | 05 | 30.2 | 13 | SN | | | 104 | 1.6 | DU | | |
| | KAND | 02 | 0819 | 0821 | 0833 | N22 | W43 | 5506 | 05 | 30.1 | 14 | SN | | P | 0821 | 104 | 1.6 | U | |
| | KHAR | 02 | 0820 | 0825 | 0830 | N19 | W40 | 5506 | 05 | 30.4 | 10 | SN | | 2 | V | 0825 | | | D |
| 0035 | | 02 | 08202 | 08217 | 0836 | N24 | W43 | 5505A | 05 | 30.1 | 16 | 1B | | | 105 | 2.2 | EIU | | |
| | HTPR | 02 | 0820 | 0821 | 0835 | N24 | W44 | 5505A | 05 | 30.0 | 15 | SB | | | 0821 | 120 | 1.7 | EI | |
| | LEAR | 02 | 0820 | 0828 | 0835 | N24 | W44 | 5505A | 05 | 30.0 | 15 | SF | | 3 | E | 25 | | | |
| | ISTA | 02 | 0822 | | 0837 | N24 | W41 | 5505A | 05 | 30.3 | 15 | 1B | | V | | | | U | |
| | CATA | 02 | 0824E | 0824 | 0826D | N23 | W44 | 5505A | 05 | 30.0 | 2D | 1B | | 1 | P | 0824 | 169 | 2.6 | |
| 0036 | KHAR | 02 | 0832 | | 0845 | S24 | E90 | 5520 | 06 | 9.3 | 13 | SF | | 2 | V | 0839 | | | R |
| 0037 | | 02 | 08417 | 08487 | 0913 | S18 | E59 | 5517 | 06 | 6.8 | 32 | 1N | | | 101 | 2.4 | EFHJK | | |
| | KAND | 02 | 0841 | 0851 | 0904 | S18 | E57 | 5517 | 06 | 6.7 | 23 | 1B | | P | 0851 | 125 | 2.4 | EFJ | |
| | HTPR | 02 | 0842 | 0848 | 0915 | S18 | E63 | 5517 | 06 | 7.1 | 33 | SB | | | 0855 | 70 | | EK | |
| | LEAR | 02 | 0843 | 0853 | 0907 | S19 | E57 | 5517 | 06 | 6.7 | 24 | 1F | | 3 | E | 107 | | F | |
| | KHAR | 02 | 0848 | 0855 | 0925 | S18 | E60 | 5517 | 06 | 6.9 | 37 | 1F | | 2 | V | 0855 | | | EH |
| 0038 | KHAR | 02 | 0920 | 0923 | 0932 | S26 | E90 | 5520 | 06 | 9.4 | 12 | SN | | 2 | V | 0923 | | | R |
| 0039 | | 02 | 1005 | 10151 | 1030 | S18 | E60 | 5517 | 06 | 7.0 | 25 | 2B | | | 454 | 15.6 | EHI | | |
| | HTPR | 02 | 1005 | 1015 | 1030 | S18 | E62 | 5517 | 06 | 7.1 | 25 | 1B | | | 1015 | 120 | | EI | |
| | KHAR | 02 | 1012E | 1014U | 1023D | S18 | E60 | 5517 | 06 | 7.0 | 11D | 1B | | 2 | V | 1014 | | | |
| | CATA | 02 | 1016E | 1016 | 1031 | S18 | E57 | 5517 | 06 | 6.8 | 15D | 3B | | 2 | P | 1016 | 787 | 15.6 | H |
| 0040 | HTPR | 02 | 1155 | 1202 | 1211 | N30 | W90 | | 05 | 26.5 | 16 | SB | | | 1202 | 40 | | | |
| 0041 | HTPR | 02 | 1339E | | 1345 | N24 | W44 | 5505A | 05 | 30.3 | 6D | SN | | | 1340 | 60 | 1.0 | E | |
| 0042 | HTPR | 02 | 1339E | | 1345 | S19 | E60 | 5517 | 06 | 7.1 | 6D | SB | | | 1340 | 60 | 1.2 | E | |

6
Jun 89

H α SOLAR FLARES

JUNE 1989

| Grp # | 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) | | |
| 0043 | | 02 | 1354* | 14064 | 1426 | S18 | E57 | 5517 | 06 | 6.9 | 32 | SN | | 82 | 1.0 | HK | |
| | HTPR | 02 | 1354 | 1407 | 1423 | S19 | E60 | 5517 | 06 | 7.1 | 29 | SB | | 50 | 1.0 | | |
| | HOLL | 02 | 1400 | 1406 | 1427 | S18 | E56 | 5517 | 06 | 6.8 | 27 | SF | 3 | 55 | | H | |
| | HOLL | 02 | 1400 | 1410 | 1427 | S18 | E56 | 5517 | 06 | 6.8 | 27 | 1F | | 155 | | K | |
| | SVTO | 02 | 1406 | 1409 | 1428 | S15 | E55 | 5517 | 06 | 6.7 | 22 | SN | 3 | 69 | | | |
| 0044 | | 02 | 1404* | 1407* | 1428 | N22 | W47 | 5506 | 05 | 30.1 | 24 | SF | | 36 | 0.9 | EK | |
| | HTPR | 02 | 1404 | 1407 | 1430 | N23 | W46 | 5506 | 05 | 30.1 | 26 | SN | | 60 | 0.9 | EK | |
| | HOLL | 02 | 1412 | 1418 | 1425 | N22 | W46 | 5506 | 05 | 30.1 | 13 | SF | 3 | 22 | | | |
| | SVTO | 02 | 1415 | 1417 | 1429 | N21 | W48 | 5506 | 05 | 30.0 | 14 | SF | 3 | 26 | | | |
| 0045 | HTPR | 02 | 1457 | 1459 | 1505 | N29 | W51 | 5508B | 05 | 29.7 | 8 | SF | | 1459 | 20 | 0.3 | |
| 0046 | | 02 | 15572 | 16019 | 1658 | S21 | E59 | 5517 | 06 | 7.2 | 61 | 1B X 1.3 | | 179 | | FKY | |
| | HOLL | 02 | 1557 | 1607 | 1657 | S24 | E59 | 5517 | 06 | 7.2 | 60 | 2B X 1.3 | 3 | 256 | | YF | |
| | HOLL | 02 | 1557 | 1610 | 1657 | S24 | E59 | 5517 | 06 | 7.2 | 60 | 2B X 1.3 | | 251 | | K | |
| | SVTO | 02 | 1559 | 1601 | 1636D | S17 | E59 | 5517 | 06 | 7.1 | 37D | 1B | 2 | 189 | | F | |
| | RAMY | 02 | 1605E | 1607U | 1712D | S19 | E59 | 5517 | 06 | 7.2 | 67D | 1B | 2 | 186 | | F | |
| | PALE | 02 | 1628E | 1628U | 1659 | S22 | E58 | 5517 | 06 | 7.1 | 31D | SF | 3 | 14 | | F | |
| 0047 | HOLL | 02 | 1732 | 1741 | 1746 | S27 | E90 | 5520 | 06 | 9.7 | 14 | SF | 3 | | 25 | | |
| 0048 | HOLL | 02 | 1735 | 1738 | 1752 | S22 | W31 | 5511 | 05 | 31.3 | 17 | SF M 1.3 | 3 | | 30 | | |
| 0049 | HOLL | 02 | 1758 | 1803 | 1818 | S27 | E90 | 5520 | 06 | 9.8 | 20 | SN | 3 | | 80 | | |
| 0050 | | 02 | 1757* | 1758* | 1841 | S20 | E55 | 5517 | 06 | 6.9 | 44 | SN M 1.4 | | 122 | | EHK | |
| | PALE | 02 | 1757 | 1758 | 1806 | S22 | E58 | 5517 | 06 | 7.2 | 9 | SF | 3 | 17 | | | |
| | HOLL | 02 | 1759 | 1759 | 1808 | S19 | E54 | 5517 | 06 | 6.9 | 9 | SF | 3 | 12 | | | |
| | PALE | 02 | 1810 | 1815 | 1946 | S19 | E53 | 5517 | 06 | 6.8 | 96 | 1N M 1.4 | 3 | 208 | | | |
| | HOLL | 02 | 1811 | 1815 | 1843 | S20 | E56 | 5517 | 06 | 7.0 | 32 | 1B M 1.7 | 3 | 240 | | EH | |
| | HOLL | 02 | 1811 | 1821 | 1843 | S20 | E56 | 5517 | 06 | 7.0 | 32 | SN | | 135 | | K | |
| 0051 | | 02 | 1835 | 1842* | 1944 | S27 | E84 | 5520 | 06 | 9.3 | 69 | SN | | 44 | | K | |
| | HOLL | 02 | 1835 | 1842 | 1944 | S27 | E84 | 5520 | 06 | 9.3 | 69 | SN | | 26 | | K | |
| | HOLL | 02 | 1835 | 1908 | 1944 | S27 | E84 | 5520 | 06 | 9.3 | 69 | SN | 3 | 61 | | | |
| 0052 | | 02 | 2007 | 2012* | 2048 | S27 | E82 | 5520 | 06 | 9.2 | 41 | SN | | 22 | | K | |
| | HOLL | 02 | 2007 | 2012 | 2048 | S27 | E82 | 5520 | 06 | 9.2 | 41 | SN | | 33 | | K | |
| | HOLL | 02 | 2007 | 2022 | 2048 | S27 | E82 | 5520 | 06 | 9.2 | 41 | SN | 3 | 10 | | | |
| 0053 | HOLL | 02 | 2052 | 2056 | 2103 | S27 | E83 | 5520 | 06 | 9.3 | 11 | SF | 3 | | 52 | | |
| | | 02 | 2125 | | 2140 | No Flare Patrol | | | | | | | | | | | |
| | | 02 | 2151 | | 2220 | No Flare Patrol | | | | | | | | | | | |
| 0054 | HOLL | 02 | 2252 | 2254 | 2300 | S27 | E80 | 5520 | 06 | 9.2 | 8 | SF | 3 | | 14 | | |
| 0055 | HOLL | 02 | 2313 | 2314 | 2324 | S27 | E82 | 5520 | 06 | 9.3 | 11 | SN | 3 | | 27 | | |
| 0056 | | 03 | 0034 | 0025* | 0053 | S19 | E54 | 5517 | 06 | 7.1 | 19 | SN C 5.3 | | 48 | 1.1 | EF | |
| | PURP | 03 | 0025E | 0025 | 0050 | S19 | E55 | 5517 | 06 | 7.2 | 25D | SN | | 58 | 1.1 | E | |
| | HOLL | 03 | 0034 | 0039 | 0056 | S19 | E53 | 5517 | 06 | 7.1 | 22 | SF C 5.3 | 3 | 39 | | F | |
| 0057 | | 03 | 00532 | 0014* | 0104 | S28 | E78 | 5520 | 06 | 9.1 | 11 | SF | | 25 | | G | |
| | PURP | 03 | 0008E | 0014 | 0111 | S29 | E80 | 5520 | 06 | 9.3 | 63D | SF | | 37 | | G | |
| | LEAR | 03 | 0053 | 0056 | 0103 | S28 | E76 | 5520 | 06 | 9.0 | 10 | SF | 3 | 23 | | | |
| | HOLL | 03 | 0055 | 0056 | 0059 | S27 | E77 | 5520 | 06 | 9.0 | 4 | SF | 3 | 16 | | | |
| 0058 | | 03 | 03082 | 03137 | 0404 | S19 | E47 | 5517 | 06 | 6.7 | 56 | 2N M 2.1 | | 477 | 3.4 | HZ | |
| | LEAR | 03 | 0308 | 0314 | 0403 | S19 | E46 | 5517 | 06 | 6.6 | 55 | 3B M 2.1 | 3 | 690 | | Z | |
| | PALE | 03 | 0309 | 0313 | 0428D | S21 | E47 | 5517 | 06 | 6.7 | 79D | 2N M 2.1 | 3 | 530 | | | |
| | MITK | 03 | 0310 | 0320 | 0406 | S18 | E47 | 5517 | 06 | 6.7 | 56 | 1N | | 210 | 3.4 | H | |
| 0059 | SVTO | 03 | 0443 | 0453 | 0527 | S19 | W52 | 5505 | 05 | 30.3 | 44 | SF | 3 | | 32 | | F |
| 0060 | LEAR | 03 | 0446 | 0452 | 0511 | S20 | E52 | 5517 | 06 | 7.2 | 25 | SF | 3 | | 18 | | |
| 0061 | LEAR | 03 | 0451 | 0458 | 0504 | N24 | W50 | 5505A | 05 | 30.4 | 13 | SF | 3 | | 16 | | |

H α SOLAR FLARES

7
Jun 89

JUNE 1989

| Grp # | 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) | |
| 0062 | HTPR | 03 | 0632 | 0633 | 0638 | S20 | E44 | 5517 | 06 | 6.6 | 6 | SN | | | | 0633 | 20 | 0.3 | |
| 0063 | ISTA | 03 | 0657 | | 0710 | N20 | E22 | 5514 | 06 | 5.0 | 13 | SN | | V | | | | | E |
| 0064 | SVTO | 03 | 0709 | 0709 | 0717 | S26 | E75 | 5520 | 06 | 9.1 | 8 | SF | 3 | E | | | 12 | | |
| 0065 | | 03 | 0712* | 07185 | 0727 | S16 | E44 | 5517 | 06 | 6.6 | 15 | SF | | | | | 21 | 0.4 | E |
| | HTPR | 03 | 0712 | 0719 | 0730 | S17 | E43 | 5517 | 06 | 6.6 | 18 | SF | | | 0719 | | 30 | 0.4 | E |
| | SVTO | 03 | 0716 | 0718 | 0721 | S16 | E45 | 5517 | 06 | 6.7 | 5 | SF | 3 | E | | | 16 | | |
| | SVTO | 03 | 0723 | 0723 | 0729 | S16 | E45 | 5517 | 06 | 6.7 | 6 | SF | 3 | E | | | 16 | | |
| 0066 | | 03 | 0713* | 0713* | 0728 | N22 | E22 | 5514 | 06 | 5.0 | 15 | SF | | | | | | | DF |
| | ISTA | 03 | 0713 | 0713 | 0725 | N23 | E23 | 5514 | 06 | 5.1 | 12 | SF | | V | | | | | F |
| | ISTA | 03 | 0727 | 0730 | 0732 | N21 | E22 | 5514 | 06 | 5.0 | 5 | SF | | V | | | | | D |
| 0067 | ISTA | 03 | 0734 | 0734 | 0736 | N18 | E10 | 5516 | 06 | 4.1 | 2 | SF | | V | | | | | D |
| 0068 | ISTA | 03 | 0734 | | 0738D | S21 | E14 | 5519 | 06 | 4.4 | 4D | SF | | V | | | | | D |
| 0069 | KHAR | 03 | 0745E | | 0758D | N20 | W90 | | 05 | 27.5 | 13D | 1F | 2 | V | | | | | R |
| 0070 | | 03 | 07486 | 0750* | 0812 | S16 | W88 | 5510 | 05 | 27.7 | 24 | SN | | | | | 52 | | AD |
| | KHAR | 03 | 0748 | 0750 | 0758D | S16 | W85 | 5510 | 05 | 28.0 | 10D | SN | 2 | V | | | | | D |
| | HTPR | 03 | 0750 | 0801 | 0812 | S16 | W90 | 5510 | 05 | 27.6 | 22 | SN | | | 0801 | | 20 | | A |
| | CATA | 03 | 0754 | 0754 | 0759D | S15 | W90 | 5510 | 05 | 27.6 | 5D | 1N | 1 | P | 0754 | | 84 | | A |
| 0071 | ISTA | 03 | 0804 | 0814 | 0825 | N29 | W51 | 5507 | 05 | 30.4 | 21 | SN | | V | | | | | D |
| 0072 | | 03 | 08581 | 09041 | 0914 | S18 | E44 | 5517 | 06 | 6.7 | 16 | SF | | | | | 30 | 0.7 | EF |
| | HTPR | 03 | 0858 | 0904 | 0916 | S19 | E45 | 5517 | 06 | 6.8 | 18 | SN | | | 0904 | | 50 | 0.7 | E |
| | SVTO | 03 | 0858 | 0905 | 0918 | S17 | E44 | 5517 | 06 | 6.7 | 20 | SF | 3 | E | | | 25 | | F |
| | LEAR | 03 | 0859 | 0904 | 0908 | S19 | E43 | 5517 | 06 | 6.6 | 9 | SF | 3 | E | | | 16 | | |
| 0073 | ISTA | 03 | 0859 | | 0934D | N20 | E22 | 5514 | 06 | 5.0 | 35D | SN | | V | | | | | FK |
| 0074 | SVTO | 03 | 0911 | 0911 | 0932 | S22 | E77 | 5520 | 06 | 9.3 | 21 | SF | 3 | E | | | 14 | | F |
| 0075 | ISTA | 03 | 0918 | 0922 | 0934 | N29 | E14 | | 06 | 4.5 | 16 | SF | | V | | | | | D |
| 0076 | SVTO | 03 | 0920 | 0928 | 0934 | S19 | E54 | 5517 | 06 | 7.5 | 14 | SF | 3 | E | | | 17 | | |
| 0077 | | 03 | 09575 | 1002 | 1012 | S16 | W90 | 5510 | 05 | 27.7 | 15 | 1N | | | | | 72 | | |
| | HTPR | 03 | 0957 | 1002 | 1010 | S16 | W90 | 5510 | 05 | 27.7 | 13 | 1N | | | 1002 | | 60 | | |
| | CATA | 03 | 1002 | 1002 | 1015 | S15 | W90 | 5510 | 05 | 27.7 | 13 | 1N | 1 | C | 1002 | | 84 | | |
| 0078 | | 03 | 1006 | 1008 | 1023 | N22 | W58 | 5506 | 05 | 30.1 | 17 | SN | | | | | 37 | 1.2 | E |
| | HTPR | 03 | 1006 | 1008 | 1026 | N23 | W58 | 5506 | 05 | 30.0 | 20 | SB | | | 1008 | | 60 | 1.2 | E |
| | SVTO | 03 | 1017E | 1017U | 1020 | N22 | W59 | 5506 | 05 | 30.0 | 3D | SF | 2 | E | | | 14 | | |
| 0079 | | 03 | 10167 | 10212 | 1032 | S17 | E44 | 5517 | 06 | 6.8 | 16 | 1B M 1.5 | | | | | 186 | 2.8 | E |
| | HTPR | 03 | 1016 | 1021 | 1030 | S18 | E45 | 5517 | 06 | 6.8 | 14 | SB | | | 1021 | | 110 | 1.5 | E |
| | SVTO | 03 | 1017E | 1020U | 1034 | S16 | E43 | 5517 | 06 | 6.7 | 17D | 1B M 1.5 | 2 | E | | | 168 | | |
| | CATA | 03 | 1023 | 1023 | 1031D | S17 | E43 | 5517 | 06 | 6.7 | 8D | 1B | 1 | P | 1023 | | 281 | 4.1 | |
| 0080 | SVTO | 03 | 1130 | 1218 | 1243 | S21 | E78 | 5520 | 06 | 9.4 | 73 | 1N M 2.5 | 3 | E | | | 135 | | F |
| 0081 | SVTO | 03 | 1139 | 1145 | 1208 | S25 | E69 | 5520 | 06 | 8.8 | 29 | SF | 3 | E | | | 41 | | |
| 0082 | RAMY | 03 | 1131 | 1134 | 1227D | N24 | W72 | 5508B | 05 | 29.0 | 56D | SF | 2 | E | | | 54 | | F |
| 0083 | HTPR | 03 | 1218E | | 1222D | S20 | E90 | 5524 | 06 | 10.4 | 4D | 1B | | | | | | | A |
| 0084 | | 03 | 1300* | 1325 | 1406 | S19 | E46 | 5517 | 06 | 7.0 | 66 | 1B M 3.2 | | | | | 255 | 4.9 | BEFI |
| | RAMY | 03 | 1300 | 1318U | 1422D | S19 | E46 | 5517 | 06 | 7.0 | 82D | SN | 2 | E | | | 98 | | F |
| | SVTO | 03 | 1313 | 1325 | 1412 | S18 | E48 | 5517 | 06 | 7.2 | 59 | 2B M 3.2 | 3 | E | | | 317 | | F |
| | HTPR | 03 | 1326E | | 1400 | S19 | E45 | 5517 | 06 | 7.0 | 34D | 1B | | | 1326 | | 350 | 4.9 | BEI |
| 0085 | SVTO | 03 | 1353 | 1356 | 1409 | S22 | W49 | 5515 | 05 | 30.9 | 16 | SF | 3 | E | | | 49 | | |

8
Jun 89

H α SOLAR FLARES

JUNE 1989

| Grp # | Sta | Start Day (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) | | |
| 0086 | | 03 14372 | 1442 | 1503 | N30 | W55 | 5507 | 05 30.4 | 26 | SF | | | 95 | 2.4 | E | |
| | SVTO | 03 1437 | 1442 | 1503 | N28 | W56 | 5507 | 05 30.3 | 26 | SF | 3 | E | 85 | | | |
| | HTPR | 03 1439 | | 1455D | N31 | W54 | 5507 | 05 30.4 | 160 | 1N | | | 1443 | 140 | 2.4 | E |
| | RAMY | 03 1441E | 1442U | 1459D | N31 | W54 | 5507 | 05 30.4 | 180 | SF | 2 | E | 59 | | | |
| | | 03 1622 | | 1623 | No Flare Patrol | | | | | | | | | | | |
| 0087 | | 03 1656 | 1705 | 1721 | N32 | W56 | 5507 | 05 30.4 | 25 | 1F M 2.0 | | | 86 | | F | |
| | PALE | 03 1656 | 1705 | 1721 | N32 | W56 | 5507 | 05 30.4 | 25 | SF M 2.0 | 3 | E | 63 | | | |
| | RAMY | 03 1707E | 1707U | 1707D | N31 | W56 | 5507 | 05 30.4 | 25D | 1F M 2.0 | 1 | E | 109 | | F | |
| 0088 | PALE | 03 1819 | 1823 | 1847 | S21 | E47 | 5517 | 06 7.4 | 28 | SF | 3 | E | 29 | | | |
| 0089 | | 03 1829 | 1830* | 1940 | S22 | E77 | 5521 | 06 9.7 | 71 | 1N X 1.0 | | | 129 | | K | |
| | PALE | 03 1829 | 1830 | 1940 | S22 | E77 | 5521 | 06 9.7 | 71 | 1N | | E | 184 | | K | |
| | PALE | 03 1829 | 1844 | 1940 | S22 | E77 | 5521 | 06 9.7 | 71 | 1F X 1.0 | 3 | E | 74 | | | |
| 0090 | PALE | 03 2050 | 2050 | 2059 | S19 | E75 | 5521 | 06 9.6 | 9 | SF C 4.0 | 3 | E | 35 | | F | |
| 0091 | | 03 22433 | 22481 | 2304 | S20 | W54 | 5515 | 05 30.9 | 21 | SF | | | 40 | | EF | |
| | HOLL | 03 2243 | 2248 | 2259 | S21 | W52 | 5515 | 05 31.0 | 16 | SF | 2 | E | 55 | | FE | |
| | PALE | 03 2246 | 2249 | 2309 | S18 | W55 | 5515 | 05 30.9 | 23 | SF | 3 | E | 26 | | F | |
| 0092 | PALE | 03 2303 | 2304 | 2313 | N13 | E04 | 5516 | 06 4.3 | 10 | SF M 1.8 | 3 | E | 22 | | F | |
| 0093 | PALE | 03 2306 | 2308 | 2315 | S21 | E43 | 5517 | 06 7.2 | 9 | SF | 3 | E | 31 | | F | |
| 0094 | | 04 0033 | 00331 | 0051 | S21 | E76 | 5521 | 06 9.8 | 18 | SF C 2.3 | | | 27 | | F | |
| | PALE | 04 0033 | 0033 | 0053 | S21 | E77 | 5521 | 06 9.9 | 20 | SF C 2.3 | 3 | E | 28 | | F | |
| | LEAR | 04 0033 | 0034 | 0049 | S21 | E76 | 5521 | 06 9.8 | 16 | SF C 2.3 | 3 | E | 26 | | | |
| 0095 | | 04 0133 | 01361 | 0154 | S20 | E40 | 5517 | 06 7.1 | 21 | SF C 2.0 | | | 40 | | | |
| | LEAR | 04 0133 | 0136 | 0158 | S20 | E39 | 5517 | 06 7.0 | 25 | SF C 2.0 | 3 | E | 48 | | | |
| | PALE | 04 0133 | 0137 | 0151 | S21 | E40 | 5517 | 06 7.1 | 18 | SF C 2.0 | 3 | E | 32 | | | |
| 0096 | | 04 02112 | 02168 | 0304 | S20 | E34 | 5517 | 06 6.7 | 53 | 1N M 1.0 | | | 134 | 2.7 | DEFH | |
| | MITK | 04 0211 | 0224 | 0310 | S20 | E34 | 5517 | 06 6.7 | 59 | SB | | C | 0224 | | EH | |
| | PALE | 04 0212 | 0216 | 0314 | S20 | E34 | 5517 | 06 6.7 | 62 | 1N M 1.0 | 3 | E | 127 | | F | |
| | LEAR | 04 0213 | 0216 | 0304 | S19 | E34 | 5517 | 06 6.7 | 51 | SN M 1.0 | 3 | E | 67 | | E | |
| | URUM | 04 0215E | 0220 | 0250 | S20 | E33 | 5517 | 06 6.6 | 35D | 1N | | C | 209 | 2.7 | D | |
| 0097 | | 04 0240* | 0251* | 0347 | S19 | E77 | 5521 | 06 10.0 | 67 | 1B M 3.4 | | | 153 | | EK | |
| | LEAR | 04 0240 | 0251 | 0355 | S21 | E76 | 5521 | 06 9.9 | 75 | 1B M 3.4 | 3 | E | 143 | | | |
| | LEAR | 04 0240 | 0310 | 0355 | S21 | E76 | 5521 | 06 9.9 | 75 | 1B | | E | 72 | | K | |
| | PALE | 04 0241 | 0255 | 0402 | S16 | E72 | 5521 | 06 9.6 | 81 | 2N M 3.4 | 3 | E | 297 | | | |
| | URUM | 04 0249 | 0254 | 0304 | S20 | E82 | 5521 | 06 10.4 | 15 | 1B | | C | 145 | | E | |
| | MITK | 04 0250 | 0255 | 0357 | S19 | E77 | 5521 | 06 10.0 | 67 | 1B | | C | 0255 | | E | |
| 0098 | LEAR | 04 0621 | 0621 | 0627 | S19 | W59 | 5515 | 05 30.9 | 6 | SF | 3 | E | 16 | | F | |
| 0099 | | 04 07415 | 07461 | 0818 | N30 | W64 | 5507 | 05 30.4 | 37 | 2N M 1.0 | | | 284 | 9.4 | EF | |
| | BUCA | 04 0741 | 0746 | 0815 | N32 | W67 | 5507 | 05 30.1 | 34 | 1N | | C | 0746 | | E | |
| | LEAR | 04 0743 | 0747 | 0818 | N31 | W64 | 5507 | 05 30.4 | 35 | 2N M 1.0 | 3 | E | 284 | | F | |
| | ATHN | 04 0745E | 0749U | 0754D | N30 | W60 | 5507 | 05 30.7 | 9D | 2B | 3 | V | 0749 | 413 | 9.4 | |
| | CATA | 04 0746 | 0746 | 0820 | N30 | W64 | 5507 | 05 30.4 | 34 | 2B | 2 | C | 0746 | 394 | | |
| | SVTO | 04 0752E | 0807U | 0825D | N28 | W67 | 5507 | 05 30.2 | 33D | SF | 1 | E | 59 | | F | |
| 0100 | | 04 08178 | 08331 | 0904 | S20 | E72 | 5521 | 06 9.8 | 47 | 2N M 1.6 | | | 324 | | F | |
| | LEAR | 04 0817 | 0834 | 0916 | S20 | E71 | 5521 | 06 9.8 | 59 | 2N M 1.6 | 3 | E | 367 | | F | |
| | KANZ | 04 0818 | | 0822D | S20 | E71 | 5521 | 06 9.8 | 4D | SN | | V | | | | |
| | CATA | 04 0825 | 0833 | 0851 | S19 | E73 | 5521 | 06 9.9 | 26 | 2B | 1 | C | 0833 | 281 | | |
| 0101 | KHAR | 04 1110 | | 1127 | S22 | W56 | 5515 | 05 31.2 | 17 | SF | 2 | V | 1110 | | D | |
| 0102 | RAMY | 04 1129 | 1230 | 1237 | S20 | E70 | 5521 | 06 9.8 | 68 | SN C 5.6 | 3 | E | 82 | | | |
| | | 04 1156 | | 1219 | No Flare Patrol | | | | | | | | | | | |
| 0103 | RAMY | 04 1320 | 1321 | 1328 | S20 | E73 | 5521 | 06 10.1 | 8 | SF C 3.4 | 3 | E | 12 | | | |

10
Jun 89

HA SOLAR FLARES

JUNE 1989

| Grp # | Sta | Start Day | Max (UT) | End (UT) | NOAA/USAF | | | CMP Mo | Dur Day | Imp Opt | Xray | Obs See | Type | Area Measurement | | | Remarks |
|-------|------|-----------|----------|----------|-----------|-----|--------|---------|---------|---------|------|---------|------|------------------|----------------------|---------------|---------|
| | | | | | Lat | CMD | Region | | | | | | | Time (UT) | Apparent (10-6 Disk) | Corr (Sq Deg) | |
| 0122 | | 05 06408 | 06438 | 0656 | S21 | W72 | 5515 | 05 30.8 | 16 | SF | | | | | 36 | | DE |
| | KAND | 05 0640 | 0643 | 0650 | S21 | W72 | 5515 | 05 30.8 | 10 | SF | | P | 0643 | 42 | | | D |
| | ISTA | 05 0645 | | 0659 | S21 | W70 | 5515 | 05 31.0 | 14 | 1N | | V | | | | | E |
| | SVTO | 05 0648 | 0651 | 0659 | S22 | W73 | 5515 | 05 30.8 | 11 | SF | | 3 | E | | 30 | | |
| 0123 | SVTO | 05 0651 | 0654 | 0658 | N17 | W81 | 5506 | 05 30.2 | 7 | SF C | 2.7 | 3 | E | | 14 | | |
| 0124 | SVTO | 05 0651 | 0653 | 0700 | S23 | E23 | 5517B | 06 7.0 | 9 | SF | | 3 | E | | 17 | | |
| 0125 | | 05 07174 | 07193 | 0740 | S19 | E58 | 5521 | 06 9.7 | 23 | 1N | | | | | 125 | 2.5 | EFT |
| | ATHN | 05 0715E | 0720U | 0730D | S20 | E54 | 5521 | 06 9.4 | 15D | 1F | | 3 | V | 0720 | 159 | 3.0 | |
| | KANZ | 05 0717 | 0721 | 0737 | S20 | E59 | 5521 | 06 9.8 | 20 | SF | | | V | | | | |
| | YUNN | 05 0718 | 0719 | 0738 | S20 | E59 | 5521 | 06 9.8 | 20 | 1N | | | C | | 113 | 2.4 | E |
| | ISTA | 05 0720 | | 0752 | S18 | E60 | 5521 | 06 9.9 | 32 | 1B | | | V | | | | F |
| | KAND | 05 0721 | 0722 | 0731 | S19 | E59 | 5521 | 06 9.8 | 10 | 1B | | | P | 0722 | 104 | 2.2 | ET |
| 0126 | KHAR | 05 0800E | | 0806D | N17 | W80 | 5506 | 05 30.3 | 6D | SF | | 2 | V | 0800 | | | |
| 0127 | | 05 0816* | 0818* | 0859 | S19 | E60 | 5521 | 06 9.9 | 43 | SN M | 1.3 | | | | 98 | 2.6 | EFKTU |
| | ISTA | 05 0816 | | 0843 | S20 | E65 | 5521 | 06 10.3 | 27 | SN | | | V | | | | F |
| | SVTO | 05 0816 | 0818 | 0826 | S20 | E58 | 5521 | 06 9.8 | 10 | SF | | 2 | E | | 32 | | |
| | SVTO | 05 0827 | 0858 | 0938D | S18 | E62 | 5521 | 06 10.1 | 71D | SB M | 1.3 | 3 | E | | 78 | | F |
| | SVTO | 05 0827 | 0908 | 0938D | S18 | E62 | 5521 | 06 10.1 | 71D | SB | | | E | | 67 | | K |
| | KHAR | 05 0840 | 0850 | 0900D | S20 | E63 | 5521 | 06 10.2 | 20D | 1F | | 2 | P | 0853 | 150 | | E |
| | YUNN | 05 0840 | 0857 | 0905 | S20 | E58 | 5521 | 06 9.8 | 25 | 1N | | | C | | 177 | 3.6 | E |
| | KANZ | 05 0841E | 0858U | 0904D | S19 | E57 | 5521 | 06 9.7 | 23D | SF | | | V | | | | |
| | KAND | 05 0845 | 0849 | 0910 | S17 | E59 | 5521 | 06 9.8 | 25 | SN | | | P | 0849 | 83 | 1.7 | FUT |
| | ISTA | 05 0848 | | 0930 | S20 | E59 | 5521 | 06 9.9 | 42 | 1B | | | V | | | | F |
| 0128 | KAND | 05 1025 | 1026 | 1032 | N24 | W48 | 5513B | 06 1.7 | 7 | SF | | | P | 1026 | 42 | 0.7 | E |
| 0129 | | 05 11123 | 1114* | 1209 | S19 | E58 | 5521 | 06 9.9 | 57 | SN M | 3.4 | | | | 82 | 1.9 | FKTU |
| | RAMY | 05 1112 | 1114 | 1209 | S21 | E59 | 5521 | 06 10.0 | 57 | 1B M | 3.4 | 3 | E | | 102 | | |
| | SVTO | 05 1113 | 1116 | 1144D | S18 | E58 | 5521 | 06 9.9 | 31D | SN M | 3.4 | 2 | E | | 69 | | UF |
| | SVTO | 05 1113 | 1128 | 1144D | S18 | E58 | 5521 | 06 9.9 | 31D | SN | | | E | | 51 | | K |
| | KAND | 05 1115 | 1124 | 1142D | S19 | E56 | 5521 | 06 9.7 | 27D | SN | | | P | 1124 | 104 | 1.9 | T |
| 0130 | | 05 12141 | 1215 | 1218 | N19 | W82 | 5506 | 05 30.3 | 4 | SF | | | | | 16 | | |
| | RAMY | 05 1214 | 1215 | 1219 | N20 | W79 | 5506 | 05 30.6 | 5 | SF | | 4 | E | | 22 | | |
| | SVTO | 05 1215 | 1215 | 1218 | N18 | W86 | 5506 | 05 30.1 | 3 | SF | | 2 | E | | 11 | | |
| 0131 | | 05 12543 | 12592 | 1316 | S20 | E58 | 5521 | 06 10.0 | 22 | SF | | | | | 20 | | F |
| | SVTO | 05 1254 | 1259 | 1316 | S19 | E58 | 5521 | 06 10.0 | 22 | SF | | 2 | E | | 23 | | |
| | RAMY | 05 1257 | 1301 | 1312D | S20 | E58 | 5521 | 06 10.0 | 15D | SF | | 3 | E | | 17 | | F |
| 0132 | HOLL | 05 1421 | 1425 | 1432 | S19 | E57 | 5521 | 06 9.9 | 11 | SF | | 3 | E | | 19 | | |
| 0133 | | 05 1508* | 1517* | 1623 | S20 | E57 | 5521 | 06 10.0 | 75 | SF C | 4.9 | | | | 53 | | K |
| | HOLL | 05 1508 | 1517 | 1626 | S20 | E57 | 5521 | 06 10.0 | 78 | SF | | | E | | 47 | | K |
| | HOLL | 05 1508 | 1546 | 1626 | S20 | E57 | 5521 | 06 10.0 | 78 | SF C | 4.9 | 3 | E | | 70 | | |
| | RAMY | 05 1540 | 1549 | 1616 | S20 | E56 | 5521 | 06 9.9 | 36 | SF C | 4.9 | 3 | E | | 43 | | |
| 0134 | | 05 1622* | 16316 | 1703 | S19 | E20 | 5517 | 06 7.2 | 41 | SF | | | | | 62 | | F |
| | HOLL | 05 1622 | 1631 | 1710 | S19 | E20 | 5517 | 06 7.2 | 48 | SF | | 3 | E | | 65 | | F |
| | RAMY | 05 1634 | 1637 | 1656 | S19 | E20 | 5517 | 06 7.2 | 22 | SF | | 3 | E | | 59 | | F |
| 0135 | | 05 1652 | 1659* | 1750 | S20 | E60 | 5521 | 06 10.3 | 58 | SF | | | | | 56 | | FK |
| | HOLL | 05 1652 | 1659 | 1750 | S20 | E60 | 5521 | 06 10.3 | 58 | SF | | 3 | E | | 62 | | F |
| | HOLL | 05 1652 | 1743 | 1750 | S20 | E60 | 5521 | 06 10.3 | 58 | SF | | | E | | 51 | | K |
| 0136 | HOLL | 05 1658 | 1700 | 1705 | S18 | E73 | 5524 | 06 11.3 | 7 | SF | | 3 | E | | 19 | | |
| 0137 | RAMY | 05 1712 | 1716 | 1723 | S19 | E55 | 5521 | 06 9.9 | 11 | SF | | 3 | E | | 35 | | F |
| 0138 | | 05 1819 | 1822* | 1912 | S20 | E17 | 5517 | 06 7.1 | 53 | 1N | | | | | 90 | | FHKU |
| | HOLL | 05 1818E | 1822 | 1912 | S20 | E18 | 5517 | 06 7.1 | 54D | 1N | | 3 | E | | 113 | | UH |
| | HOLL | 05 1818E | 1839 | 1912 | S20 | E18 | 5517 | 06 7.1 | 54D | 1N | | | E | | 91 | | K |
| | PALE | 05 1819 | 1825 | 1908D | S20 | E16 | 5517 | 06 7.0 | 49D | SF | | 3 | E | | 65 | | F |

H α SOLAR FLARES

11
Jun 89

JUNE 1989

| Grp # | Sta | Day | Start (UT) | Max (UT) | End (UT) | Lat | CMD | NOAA/USAF Region | | CMP Mo | Dur (Min) | Imp Opt | Xray | Obs See | Type | Area Measurement | | | Remarks |
|-------|------|-----|------------|----------|----------|-----------------|-----|------------------|----|--------|-----------|---------|-------|---------|------|------------------|----------------------|---------------|---------|
| | | | | | | | | | | | | | | | | Time (UT) | Apparent (10-6 Disk) | Corr (Sq Deg) | |
| 0139 | | 05 | 1918 | 1926* | 2233 | S21 | E52 | 5521 | 06 | 9.8 | 195 | 2B | X 1.0 | | | | 190 | | FKTU |
| | HOLL | 05 | 1918 | 1926 | 2233 | S21 | E53 | 5521 | 06 | 9.9 | 195 | 1B | | | E | | 105 | | K |
| | HOLL | 05 | 1918 | 2137 | 2233 | S21 | E53 | 5521 | 06 | 9.9 | 195 | 2B | | 3 | E | | 298 | | UF |
| | PALE | 05 | 1926E | 1927 | 2315D | S21 | E52 | 5521 | 06 | 9.8 | 229D | 2B | | | E | | 95 | | KT |
| | PALE | 05 | 1926E | 2136U | 2315D | S21 | E52 | 5521 | 06 | 9.8 | 229D | 2B | X 1.0 | 3 | E | | 261 | | UF |
| 0140 | | 05 | 1931E | 1933 | 2006 | N12 | W01 | 5525 | 06 | 5.7 | 35D | 1F | C 8.4 | | | | 70 | | FU |
| | HOLL | 05 | 1931E | 1938U | 2015 | N12 | W03 | 5525 | 06 | 5.6 | 44D | 1F | C 8.4 | 3 | E | | 102 | | U |
| | PALE | 05 | 1932E | 1933 | 1958 | N12 | E01 | 5525 | 06 | 5.9 | 26D | SF | C 8.4 | 3 | E | | 38 | | F |
| | | 05 | 2051 | | 2056 | No Flare Patrol | | | | | | | | | | | | | |
| 0141 | HOLL | 05 | 2216 | 2222 | 2245 | S18 | E17 | 5517 | 06 | 7.2 | 29 | SF | | 3 | E | | 39 | | F |
| 0142 | | 05 | 2301 | 2305 | 2346 | S19 | E16 | 5517 | 06 | 7.2 | 45 | SF | | | | | 33 | | F |
| | PALE | 05 | 2257E | 2257U | 2347 | S19 | E16 | 5517 | 06 | 7.2 | 50D | SF | | 3 | E | | 20 | | F |
| | HOLL | 05 | 2301 | 2305 | 2346 | S19 | E17 | 5517 | 06 | 7.2 | 45 | SF | | 3 | E | | 46 | | F |
| 0143 | | 05 | 2340 | 2347 | 2404 | S18 | E52 | 5521 | 06 | 9.9 | 24 | 1N | | | | | 174 | 4.6 | EF |
| | MITK | 05 | 2340 | 2347 | 2415 | S19 | E52 | 5521 | 06 | 9.9 | 35 | 1N | | | C | 2347 | 270 | 4.6 | E |
| | HOLL | 05 | 2344E | 2344U | 2354 | S18 | E52 | 5521 | 06 | 9.9 | 10D | SN | | 3 | E | | 78 | | FE |
| 0144 | URUM | 05 | 2357E | 2359 | 2431 | N19 | W76 | 5506 | 05 | 31.2 | 34D | 1N | | | C | | 80 | | E |
| 0145 | | 06 | 0103* | 0107* | 0206 | S21 | E50 | 5521 | 06 | 9.9 | 63 | 1N | M 2.1 | | | | 175 | 4.5 | EFK |
| | HOLL | 06 | 0103 | 0107 | 0202D | S20 | E50 | 5521 | 06 | 9.9 | 59D | SN | | | E | | 68 | | K |
| | YUNN | 06 | 0103 | 0116 | 0149 | S21 | E51 | 5521 | 06 | 9.9 | 46 | 1N | | | C | | 273 | 4.8 | FK |
| | HOLL | 06 | 0103 | 0116 | 0202D | S20 | E50 | 5521 | 06 | 9.9 | 59D | SN | M 2.1 | 3 | E | | 90 | | FE |
| | PALE | 06 | 0104E | 0118 | 0210 | S22 | E49 | 5521 | 06 | 9.8 | 66D | 1F | M 2.1 | 3 | E | | 128 | | F |
| | MITK | 06 | 0113 | 0126 | 0250 | S20 | E52 | 5521 | 06 | 10.0 | 97 | 2B | | | C | 0126 | 360 | 6.5 | FK |
| | URUM | 06 | 0114 | 0129 | 0135 | S21 | E51 | 5521 | 06 | 10.0 | 21 | 1N | | | C | | 129 | 2.3 | F |
| | | | | | | | | | | | | | | | | | | | |
| 0146 | | 06 | 06493 | 06595 | 0720 | S20 | E48 | 5521 | 06 | 9.9 | 31 | 1N | | | | | 192 | 3.1 | EI |
| | HTPR | 06 | 0649 | 0659 | 0740 | S20 | E48 | 5521 | 06 | 9.9 | 51 | 1B | | | | 0659 | 200 | 2.9 | EI |
| | YUNN | 06 | 0651E | 0653U | 0701 | S20 | E47 | 5521 | 06 | 9.9 | 10D | 1N | | | P | 0653 | 193 | 3.1 | E |
| | URUM | 06 | 0652 | 0704 | 0720 | S21 | E49 | 5521 | 06 | 10.0 | 28 | SN | | | C | | 113 | 1.9 | E |
| | ABST | 06 | 0653E | 0700 | 0704D | S20 | E50 | 5521 | 06 | 10.1 | 11D | 1N | | | P | 0700 | 261 | 4.5 | E |
| 0147 | CATA | 06 | 0745 | 0745 | 0804 | S25 | W90 | 5515 | 05 | 30.4 | 19 | 1N | | 1 | C | 0745 | 56 | | |
| 0148 | CATA | 06 | 0848E | 0848 | 0856 | N28 | W90 | 5507 | 05 | 30.4 | 8D | SF | | 2 | P | 0848 | 28 | | |
| 0149 | | 06 | 0856 | 0903 | 0930 | S25 | W88 | 5515 | 05 | 30.6 | 34 | 1N | | | | | 68 | | D |
| | CATA | 06 | 0856 | 0903 | 0905D | S24 | W90 | 5515 | 05 | 30.5 | 9D | 1N | | 2 | P | 0903 | 68 | | |
| | KHAR | 06 | 0915E | | 0930 | S26 | W85 | 5515 | 05 | 30.9 | 15D | SF | | 2 | V | 0920 | | | D |
| 0150 | | 06 | 0901* | 09164 | 0938 | S19 | E46 | 5521 | 06 | 9.9 | 37 | SN | | | | | 104 | 1.6 | E |
| | HTPR | 06 | 0901 | 0919 | 0943 | S20 | E47 | 5521 | 06 | 10.0 | 42 | SN | | | | 0919 | 120 | 1.7 | E |
| | YUNN | 06 | 0912 | 0916 | 0934 | S20 | E47 | 5521 | 06 | 10.0 | 22 | SN | | | C | | 113 | 1.8 | E |
| | URUM | 06 | 0918 | 0920 | 0930 | S19 | E44 | 5521 | 06 | 9.7 | 12 | SN | | | C | | 80 | 1.2 | E |
| | KHAR | 06 | 0919 | 0920 | 0945 | S17 | E46 | 5521 | 06 | 9.9 | 26 | SN | | 2 | V | 0920 | | | E |
| 0151 | KHAR | 06 | 1001 | | 1023 | S26 | W90 | 5515 | 05 | 30.5 | 22 | SF | | 2 | V | 1001 | | | D |
| 0152 | | 06 | 10013 | 1002 | 1012 | N14 | W08 | 5525 | 06 | 5.8 | 11 | SF | | | | | 40 | 0.4 | DE |
| | HTPR | 06 | 1001 | 1002 | 1013 | N13 | W07 | 5525 | 06 | 5.9 | 12 | SF | | | | 1002 | 40 | 0.4 | E |
| | KHAR | 06 | 1004 | | 1011 | N14 | W08 | 5525 | 06 | 5.8 | 7 | SF | | 2 | V | 1009 | | | D |
| 0153 | KHAR | 06 | 1050 | 1050 | 1056 | S26 | W90 | 5515 | 05 | 30.5 | 6 | SF | | 2 | V | 1050 | | | DR |
| 0154 | | 06 | 10551 | 1059 | 1130 | S20 | E48 | 5521 | 06 | 10.1 | 35 | 1B | | | | | 225 | 3.6 | EIU |
| | HTPR | 06 | 1055 | 1059 | 1130 | S20 | E47 | 5521 | 06 | 10.0 | 35 | 1B | | | | 1059 | 200 | 2.8 | EIU |
| | KHAR | 06 | 1056 | 1059 | 1118D | S20 | E50 | 5521 | 06 | 10.3 | 22D | 1N | | 2 | P | 1103 | 250 | 4.3 | |
| 0155 | HTPR | 06 | 1055 | 1055 | 1102 | S18 | E06 | 5517 | 06 | 6.9 | 7 | SF | | | | 1055 | 30 | 0.3 | E |
| 0156 | KHAR | 06 | 1112 | 1114 | 1118D | S26 | W90 | 5515 | 05 | 30.6 | 6D | SF | | 2 | V | 1114 | | | D |
| 0157 | HTPR | 06 | 1227 | 1232 | 1250 | S21 | E45 | 5521 | 06 | 10.0 | 23 | SN | | | | 1232 | 30 | 0.4 | E |

12
Jun 89

HA SOLAR FLARES

JUNE 1989

| Grp # | Sta | Start Day | Max (UT) | End (UT) | NOAA/USAF | | | CMP Mo | Dur (Min) | Imp Opt | Xray | Obs See | Type | Area Measurement | | | Remarks | |
|-------|------|-----------|----------|----------|-----------|-----|--------|--------|-----------|---------|------|----------|------|------------------|----------------------|---------------|---------|---|
| | | | | | Lat | CMD | Region | | | | | | | Time (UT) | Apparent (10-6 Disk) | Corr (Sq Deg) | | |
| 0158 | HTPR | 06 | 1432 | 1434 | 1437 | S20 | E43 | 5521 | 06 | 9.9 | 5 | SN | | 1434 | 20 | 0.3 | | |
| 0159 | | 06 | 1510 | 15303 | 1550 | S26 | E29 | 5520 | 06 | 8.9 | 40 | SN | | | 49 | 0.9 | EFI | |
| | HTPR | 06 | 1510 | 1530 | 1555 | S26 | E28 | 5520 | 06 | 8.8 | 45 | SN | | 1530 | 80 | 0.9 | EI | |
| | HOLL | 06 | 1525E | 1533 | 1545 | S27 | E30 | 5520 | 06 | 9.0 | 200 | SF | 3 | E | 18 | | F | |
| 0160 | RAMY | 06 | 1527 | 1529 | 1538 | S17 | E39 | 5521 | 06 | 9.6 | 11 | SF | 4 | E | 14 | | F | |
| 0161 | HTPR | 06 | 1545 | 1546 | 1552 | S17 | E45 | 5521 | 06 | 10.1 | 7 | SF | | 1546 | 30 | 0.4 | E | |
| 0162 | HTPR | 06 | 1602 | 1622 | 1632 | N10 | E45 | 5531 | 06 | 10.0 | 30 | SN | | 1622 | 120 | 1.7 | EI | |
| 0163 | | 06 | 1632* | 1633* | 1739 | S19 | E40 | 5521 | 06 | 9.7 | 67 | SN M 1.0 | | | 65 | 1.3 | EFIK | |
| | HOLL | 06 | 1632 | 1634 | 1825 | S19 | E41 | 5521 | 06 | 9.8 | 113 | SN M 1.0 | 4 | E | 92 | | FE | |
| | HOLL | 06 | 1632 | 1709 | 1825 | S19 | E41 | 5521 | 06 | 9.8 | 113 | SF | | E | 40 | | K | |
| | HTPR | 06 | 1633 | 1633 | 1650 | S20 | E40 | 5521 | 06 | 9.7 | 17 | SB | | 1638 | 140 | 1.8 | EIK | |
| | RAMY | 06 | 1633 | 1633 | 1653 | S20 | E41 | 5521 | 06 | 9.8 | 20 | SF | 3 | E | 62 | | F | |
| | HTPR | 06 | 1704 | | 1723D | S20 | E40 | 5521 | 06 | 9.8 | 190 | SN | | 1717 | 60 | 0.8 | EI | |
| | RAMY | 06 | 1708 | 1717 | 1741 | S19 | E40 | 5521 | 06 | 9.8 | 33 | SF | 3 | E | 22 | | F | |
| | RAMY | 06 | 1708 | 1734 | 1741 | S19 | E40 | 5521 | 06 | 9.8 | 33 | SF | | E | 40 | | K | |
| 0164 | | 06 | 17089 | 17171 | 1740 | S18 | E03 | 5517 | 06 | 6.9 | 32 | SF | | | 48 | 1.0 | EFHI | |
| | HTPR | 06 | 1708 | | 1723D | S19 | E07 | 5517 | 06 | 7.2 | 150 | SN | | 1717 | 100 | 1.0 | EI | |
| | HOLL | 06 | 1714 | 1718 | 1743D | S17 | E02 | 5517 | 06 | 6.9 | 290 | SF | 4 | E | 50 | | | |
| | RAMY | 06 | 1717 | 1717 | 1727 | S20 | W02 | 5517 | 06 | 6.6 | 10 | SF | 3 | E | 21 | | FH | |
| | RAMY | 06 | 1717 | 1718 | 1754 | S18 | E05 | 5517 | 06 | 7.1 | 37 | SF | 3 | E | 21 | | | |
| 0165 | HOLL | 06 | 1938 | 1940 | 1947 | S22 | E43 | 5521 | 06 | 10.1 | 9 | SF | 3 | E | 14 | | | |
| 0166 | HOLL | 06 | 2017 | 2026 | 2048 | S18 | E38 | 5521 | 06 | 9.7 | 31 | SF | 3 | E | 39 | | | |
| 0167 | | 06 | 2201* | 2217* | 2245 | S20 | E38 | 5521 | 06 | 9.8 | 44 | SF | | | 22 | | FK | |
| | HOLL | 06 | 2201 | 2217 | 2251 | S19 | E38 | 5521 | 06 | 9.8 | 50 | SF | 4 | E | 23 | | F | |
| | HOLL | 06 | 2201 | 2240 | 2251 | S19 | E38 | 5521 | 06 | 9.8 | 50 | SF | | E | 27 | | K | |
| | PALE | 06 | 2216 | 2220 | 2232 | S21 | E39 | 5521 | 06 | 9.9 | 16 | SF | 3 | E | 16 | | | |
| 0168 | HOLL | 06 | 2302 | 2303 | 2307 | S18 | E39 | 5521 | 06 | 9.9 | 5 | SF | 4 | E | 27 | | | |
| 0169 | URUM | 06 | 2343E | 2344 | 2352 | S17 | E52 | 5524 | 06 | 10.9 | 90 | SN | | C | 113 | 2.0 | E | |
| 0170 | | 06 | 2355 | 23576 | 2408 | S18 | E36 | 5521 | 06 | 9.7 | 13 | SF | | | 28 | | FK | |
| | HOLL | 06 | 2355 | 2357 | 2408 | S18 | E36 | 5521 | 06 | 9.7 | 13 | SF | | E | 29 | | K | |
| | HOLL | 06 | 2355 | 2403 | 2408 | S18 | E36 | 5521 | 06 | 9.7 | 13 | SF | 4 | E | 26 | | F | |
| 0171 | | 07 | 00518 | 00591 | 0109 | S20 | E37 | 5521 | 06 | 9.9 | 18 | SF | | | 81 | 1.9 | E | |
| | HOLL | 07 | 0051 | 0100 | 0116 | S20 | E37 | 5521 | 06 | 9.9 | 25 | SF | 4 | E | 18 | | | |
| | URUM | 07 | 0052 | 0059 | 0111 | S20 | E37 | 5521 | 06 | 9.9 | 19 | 1N | | C | 177 | 2.4 | E | |
| | PURP | 07 | 0054 | 0100 | 0104 | S20 | E38 | 5521 | 06 | 9.9 | 10 | SF | | C | 103 | 1.4 | E | |
| | PALE | 07 | 0059 | 0100 | 0104 | S21 | E37 | 5521 | 06 | 9.9 | 5 | SF | 3 | E | 25 | | | |
| 0172 | | 07 | 01269 | 0133* | 0257 | S20 | E37 | 5521 | 06 | 9.9 | 91 | 1N M 3.0 | | | 241 | 4.8 | EFW | |
| | PURP | 07 | 0126 | 0139 | 0154D | S20 | E37 | 5521 | 06 | 9.9 | 280 | 1B | | C | 0139 | 369 | 5.1 | W |
| | HOLL | 07 | 0129 | 0135 | 0201D | S20 | E36 | 5521 | 06 | 9.8 | 320 | SN M 3.0 | 4 | E | 63 | | FE | |
| | YUNN | 07 | 0131 | 0133 | 0224 | S20 | E37 | 5521 | 06 | 9.9 | 53 | 1B | | C | 193 | 2.7 | F | |
| | PALE | 07 | 0134 | 0135 | 0228 | S21 | E36 | 5521 | 06 | 9.8 | 54 | SN M 3.0 | 3 | E | 97 | | F | |
| | URUM | 07 | 0135 | 0212 | 0359 | S21 | E37 | 5521 | 06 | 9.9 | 144 | 2N | | C | 482 | 6.7 | F | |
| 0173 | SVTO | 07 | 0350E | 0354U | 0425 | S18 | E36 | 5521 | 06 | 9.9 | 350 | SF | 2 | E | 34 | | F | |
| 0174 | | 07 | 0430* | 0501* | 0542 | S19 | E37 | 5521 | 06 | 10.0 | 72 | SN | | | 92 | 2.0 | EF | |
| | SVTO | 07 | 0430 | 0501 | 0544 | S18 | E34 | 5521 | 06 | 9.8 | 74 | SF | 3 | E | 40 | | F | |
| | URUM | 07 | 0455 | 0520 | 0540 | S20 | E37 | 5521 | 06 | 10.0 | 45 | SN | | C | 145 | 2.0 | F | |
| | MITK | 07 | 0512 | 0512 | 0545 | S20 | E40 | 5521 | 06 | 10.3 | 33 | SN | | C | 0512 | | | |
| | MITK | 07 | 0525 | 0529 | 0552 | S18 | E38 | 5521 | 06 | 10.1 | 27 | SN | | C | 0529 | | E | |
| | ISTA | 07 | 0526E | | 0529 | S19 | E36 | 5521 | 06 | 10.0 | 30 | 1N | | V | | | E | |
| 0175 | HTPR | 07 | 0548E | 0600 | 0620 | S22 | E39 | 5522A | 06 | 10.2 | 320 | SF | | 0600 | 80 | 1.0 | EI | |
| 0176 | HTPR | 07 | 0603 | 0610 | 0614 | S17 | E29 | 5521 | 06 | 9.4 | 11 | SF | | 0610 | 20 | 0.2 | | |

H α SOLAR FLARES

13
Jun 89

JUNE 1989

| Grp # | Sta | Day | Start (UT) | Max (UT) | End (UT) | Lat | CMD | NOAA/ | | Dur (Min) | Imp Opt | Xray | Obs See | Type | Area Measurement | | Remarks | |
|-------|------|-----|------------|----------|----------|-----|-----|-------------|------------|-----------|---------|------|---------|------|------------------|----------------------------------|---------|---------------|
| | | | | | | | | USAF Region | CMP Mo Day | | | | | | Time (UT) | Apparent (10 ⁻⁶ Disk) | | Corr (Sq Deg) |
| 0177 | | 07 | 06457 | 06493 | 0708 | S18 | E37 | 5521 | 06 | 10.1 | 23 | 1N | C | 7.8 | | 204 | 3.1 | DEFHILR |
| | YUNN | 07 | 0645 | 0649 | 0701 | S19 | E39 | 5521 | 06 | 10.2 | 16 | 1N | | | | 177 | 2.5 | F |
| | KAND | 07 | 0646 | 0650 | 0709 | S19 | E37 | 5521 | 06 | 10.1 | 23 | 1B | | | 0650 | 229 | 3.1 | E |
| | KHAR | 07 | 0647 | 0649 | 0720 | S18 | E37 | 5521 | 06 | 10.1 | 33 | 1B | | | 0650 | 300 | 4.0 | EHLR |
| | MITK | 07 | 0648 | | 0743D | S20 | E37 | 5521 | 06 | 10.1 | 55D | 1N | | | 0650 | 190 | 2.6 | |
| | ISTA | 07 | 0648 | 0649 | 0653 | S17 | E38 | 5521 | 06 | 10.2 | 5 | 1N | | | | | | D |
| | SVTO | 07 | 0648 | 0649 | 0659 | S18 | E37 | 5521 | 06 | 10.1 | 11 | SF | C | 7.8 | 3 | 49 | | |
| | HTPR | 07 | 0648 | 0650 | 0727 | S20 | E37 | 5521 | 06 | 10.1 | 39 | SB | | | 0650 | 150 | 1.8 | EI |
| | CATA | 07 | 0652 | 0652 | 0708 | S17 | E37 | 5521 | 06 | 10.1 | 16 | 1B | | | 0652 | 337 | 4.6 | |
| 0178 | ISTA | 07 | 0701 | | 0708 | S24 | E39 | 5522A | 06 | 10.3 | 7 | SF | | | | | | E |
| 0179 | KHAR | 07 | 0724 | 0742 | 0745 | N19 | E90 | 5528 | 06 | 14.2 | 21 | SF | | | 0742 | | | D |
| 0180 | | 07 | 07293 | 07314 | 0752 | S19 | E33 | 5521 | 06 | 9.8 | 23 | SN | | | | 77 | 1.2 | EF |
| | YUNN | 07 | 0729E | 0731U | 0754 | S21 | E34 | 5521 | 06 | 9.9 | 25D | SN | | | 0731 | 96 | 1.3 | |
| | HTPR | 07 | 0729 | 0735 | 0758 | S20 | E36 | 5521 | 06 | 10.1 | 29 | SB | | | 0735 | 100 | 1.2 | E |
| | KHAR | 07 | 0730 | 0731 | 0757 | S18 | E31 | 5521 | 06 | 9.7 | 27 | SN | | | 0731 | | | |
| | SVTO | 07 | 0731 | 0734 | 0745 | S18 | E33 | 5521 | 06 | 9.8 | 14 | SF | | | | 16 | | F |
| | URUM | 07 | 0732 | 0735 | 0746 | S20 | E32 | 5521 | 06 | 9.8 | 14 | SN | | | | 96 | 1.2 | E |
| 0181 | | 07 | 08163 | 08188 | 0834 | S19 | E33 | 5521 | 06 | 9.9 | 18 | 1N | | | | 177 | 2.2 | EFI |
| | KAND | 07 | 0816 | 0818 | 0821 | S18 | E33 | 5521 | 06 | 9.8 | 5 | SN | | | 0818 | 104 | 1.3 | E |
| | HTPR | 07 | 0816 | 0826 | 0841 | S20 | E36 | 5521 | 06 | 10.1 | 25 | 1F | | | 0826 | 250 | 3.0 | EFI |
| | KANZ | 07 | 0819 | 0823U | 0823D | S19 | E32 | 5521 | 06 | 9.8 | 4D | SF | | | | | | |
| | KHAR | 07 | 0823E | 0823 | 0840 | S18 | E31 | 5521 | 06 | 9.7 | 17D | 1N | | | 0823 | | | E |
| 0182 | HTPR | 07 | 0839 | 0847 | 0857 | S21 | W57 | 5519 | 06 | 3.0 | 18 | SF | | | 0847 | 20 | 0.3 | |
| 0183 | KHAR | 07 | 0840 | 0842 | 0855 | S25 | W88 | 5511 | 05 | 31.5 | 15 | SN | | | 0842 | | | D |
| 0184 | KHAR | 07 | 0845 | 0847 | 0934 | N18 | E90 | 5528 | 06 | 14.2 | 49 | 1N | | | 0848 | | | DR |
| 0185 | KHAR | 07 | 0910 | 0915 | 0922 | N25 | E85 | 5528 | 06 | 14.0 | 12 | SF | | | 0915 | | | D |
| 0186 | | 07 | 0948* | 0956* | 1022 | S17 | E36 | 5521 | 06 | 10.1 | 34 | 1B | M | 1.8 | | 290 | 4.2 | EFHKT |
| | HTPR | 07 | 0948 | 0956 | 1022 | S17 | E35 | 5521 | 06 | 10.1 | 34 | 1B | | | 1011 | 320 | 3.9 | EK |
| | KHAR | 07 | 0954 | 1014 | 1024 | S20 | E38 | 5521 | 06 | 10.3 | 30 | 1N | | | 1013 | 380 | 4.9 | H |
| | KAND | 07 | 1003 | 1010 | 1020 | S16 | E34 | 5521 | 06 | 10.0 | 17 | 1B | | | 1010 | 166 | 2.1 | ET |
| | SVTO | 07 | 1008 | 1010 | 1020D | S16 | E35 | 5521 | 06 | 10.1 | 12D | 1N | M | 1.8 | 3 | 104 | | FH |
| | ATHN | 07 | 1010 | 1011 | 1020 | S18 | E38 | 5521 | 06 | 10.3 | 10 | SN | | | 1011 | 127 | 1.7 | |
| | CATA | 07 | 1011E | 1011 | 1015D | S17 | E35 | 5521 | 06 | 10.1 | 4D | 2B | | | 1011 | 646 | 8.5 | |
| 0187 | | 07 | 10464 | 10514 | 1111 | S20 | E33 | 5521 | 06 | 10.0 | 25 | SN | M | 1.1 | | 88 | 1.3 | EFT |
| | ATHN | 07 | 1046 | 1055 | 1100 | S18 | E32 | 5521 | 06 | 9.9 | 14 | SN | | | 1055 | 64 | 0.8 | |
| | SVTO | 07 | 1049 | 1051 | 1113 | S20 | E33 | 5521 | 06 | 10.0 | 24 | SN | M | 1.1 | 3 | 56 | | F |
| | KANZ | 07 | 1049E | 1052 | 1112 | S21 | E33 | 5521 | 06 | 10.0 | 23D | SN | | | | | | E |
| | KAND | 07 | 1050 | 1052 | 1119 | S19 | E33 | 5521 | 06 | 10.0 | 29 | SB | | | 1052 | 145 | 1.8 | ET |
| 0188 | HTPR | 07 | 1047 | 1052 | 1124 | S25 | E35 | 5522A | 06 | 10.2 | 37 | 1B | | | 1052 | 250 | 3.0 | EI |
| 0189 | | 07 | 11014 | 11074 | 1128 | S18 | W04 | 5517 | 06 | 7.1 | 27 | SF | | | | 63 | 0.8 | EFI |
| | SVTO | 07 | 1101 | 1111 | 1136 | S18 | W04 | 5517 | 06 | 7.1 | 35 | SF | | | | 28 | | F |
| | KAND | 07 | 1105 | 1107 | 1125 | S17 | W04 | 5517 | 06 | 7.1 | 20 | SF | | | 1107 | 62 | 0.7 | E |
| | HTPR | 07 | 1105 | 1111 | 1124 | S18 | W04 | 5517 | 06 | 7.1 | 19 | SF | | | 1111 | 100 | 1.0 | EI |
| 0190 | HTPR | 07 | 1220 | 1224 | 1235 | S11 | E90 | 5530 | 06 | 14.3 | 15 | SB | | | 1224 | 30 | | |
| 0191 | | 07 | 1252 | 12531 | 1302 | N17 | E90 | 5528 | 06 | 14.4 | 10 | 1N | C | 7.4 | | 150 | | E |
| | SVTO | 07 | 1252 | 1253 | 1312D | N19 | E90 | 5528 | 06 | 14.4 | 20D | 1F | C | 7.4 | 2 | 146 | | |
| | HTPR | 07 | 1252 | 1254 | 1258 | N16 | E90 | 5528 | 06 | 14.4 | 6 | 1B | | | 1254 | 150 | | E |
| | HOLL | 07 | 1255E | 1257U | 1305 | N16 | E90 | 5528 | 06 | 14.4 | 10D | 1N | C | 7.4 | 3 | 155 | | |
| 0192 | HTPR | 07 | 1424 | | 1446D | S11 | E90 | 5530 | 06 | 14.4 | 22D | SN | | | 1434 | 30 | | |
| 0193 | HTPR | 07 | 1529 | 1531 | 1543 | N18 | W44 | 5514 | 06 | 4.3 | 14 | SF | | | 1531 | 60 | 0.8 | E |
| 0194 | HTPR | 07 | 1555 | 1600 | 1605 | S11 | E90 | 5530 | 06 | 14.4 | 10 | SN | | | 1600 | 30 | | |

14
Jun 89

H α SOLAR FLARES

JUNE 1989

| Grp # | Sta | Day | Start (UT) | Max (UT) | End (UT) | NOAA/USAF | | CMP Mo | Day | Dur (Min) | Imp Opt | Xray | Obs See | Type | Area Measurement | | Remarks | | |
|-------|------|-----|------------|----------|----------|-----------|-------|--------|-----|-----------|---------|----------|---------|------|------------------|----------------------|---------|---------------|-------|
| | | | | | | Region | Class | | | | | | | | Time (UT) | Apparent (10-6 Disk) | | Corr (Sq Deg) | |
| 0195 | | 07 | 16431 | 16451 | 1706 | S18 | E28 | 5521 | 06 | 9.8 | 23 | SF | | | | 18 | | F | |
| | SVTO | 07 | 1643 | 1645 | 1703 | S18 | E29 | 5521 | 06 | 9.9 | 20 | SF | | 3 | E | | 19 | | F |
| | HOLL | 07 | 1644 | 1646 | 1710 | S18 | E28 | 5521 | 06 | 9.8 | 26 | SF | | 3 | E | | 22 | | |
| | RAMY | 07 | 1656E | 1656U | 1706 | S19 | E27 | 5521 | 06 | 9.8 | 10D | SF | | 3 | E | | 13 | | |
| 0196 | | 07 | 16433 | 1646 | 1702 | S10 | E88 | 5530 | 06 | 14.3 | 19 | SN | | | | | 22 | | |
| | HTRP | 07 | 1643 | | 1708D | S11 | E90 | 5530 | 06 | 14.5 | 25D | SN | | | | 1657 | 30 | | |
| | HOLL | 07 | 1646 | 1646 | 1702 | S10 | E85 | 5530 | 06 | 14.1 | 16 | SF | | 3 | E | | 14 | | |
| 0197 | HOLL | 07 | 1713 | 1719 | 1745 | S18 | W07 | 5517 | 06 | 7.2 | 32 | SF | | 3 | E | | 17 | | |
| 0198 | HOLL | 07 | 1746 | 1746 | 1754 | S18 | W06 | 5517 | 06 | 7.3 | 8 | SF | | 3 | E | | 15 | | |
| 0199 | | 07 | 1738 | 1741* | 1819 | S19 | E29 | 5521 | 06 | 9.9 | 41 | SF | | | | | 16 | | K |
| | HOLL | 07 | 1738 | 1741 | 1815 | S19 | E29 | 5521 | 06 | 9.9 | 37 | SF | | | E | | 13 | | K |
| | HOLL | 07 | 1738 | 1804 | 1815 | S19 | E29 | 5521 | 06 | 9.9 | 37 | SF | | 4 | E | | 15 | | |
| | RAMY | 07 | 1738 | 1810 | 1827 | S20 | E29 | 5521 | 06 | 9.9 | 49 | SF | | 3 | E | | 21 | | |
| 0200 | | 07 | 1905 | 1906 | 1919 | N18 | E84 | 5528 | 06 | 14.2 | 14 | 1N | | | | | 129 | | |
| | HOLL | 07 | 1905 | 1906 | 1918 | N17 | E85 | 5528 | 06 | 14.2 | 13 | 1N | | 4 | E | | 105 | | |
| | RAMY | 07 | 1905 | 1906 | 1920 | N19 | E83 | 5528 | 06 | 14.1 | 15 | 1N | | 3 | E | | 127 | | |
| | PALE | 07 | 1910E | 1915U | 1945D | N18 | E85 | 5528 | 06 | 14.3 | 35D | 1N | | 3 | E | | 154 | | |
| 0201 | | 07 | 19082 | 1911* | 1954 | S20 | E28 | 5521 | 06 | 9.9 | 46 | SN M 1.1 | | | | | 60 | | FKU |
| | HOLL | 07 | 1908 | 1911 | 1958 | S20 | E29 | 5521 | 06 | 10.0 | 50 | SN M 1.1 | 3 | E | | | 76 | | UF |
| | RAMY | 07 | 1908 | 1911 | 1959 | S19 | E28 | 5521 | 06 | 9.9 | 51 | SN M 1.1 | 3 | E | | | 71 | | F |
| | HOLL | 07 | 1908 | 1922 | 1958 | S20 | E29 | 5521 | 06 | 10.0 | 50 | SB | | | E | | 72 | | K |
| | PALE | 07 | 1910 | 1911 | 1943 | S19 | E24 | 5521 | 06 | 9.6 | 33 | SF | | 3 | E | | 23 | | F |
| 0202 | HOLL | 07 | 1920 | 1922 | 1928 | S10 | E82 | 5530 | 06 | 14.0 | 8 | SF | | 4 | E | | 17 | | |
| 0203 | HOLL | 07 | 1944 | 1944 | 1953 | N10 | W62 | 5529 | 06 | 3.2 | 9 | SF | | 3 | E | | 11 | | |
| 0204 | | 07 | 19491 | 1951 | 2011 | S10 | E84 | 5530 | 06 | 14.1 | 22 | SF C 7.0 | | | | | 22 | | |
| | HOLL | 07 | 1949 | 1951 | 2006 | S10 | E82 | 5530 | 06 | 14.0 | 17 | SF C 7.0 | 3 | E | | | 28 | | |
| | RAMY | 07 | 1950 | 1951 | 2016 | S10 | E86 | 5530 | 06 | 14.3 | 26 | SF C 7.0 | 3 | E | | | 15 | | |
| 0205 | | 07 | 20307 | 2039* | 2138 | S20 | E26 | 5521 | 06 | 9.8 | 68 | 1N M 2.4 | | | | | 140 | | EFKU |
| | HOLL | 07 | 2030 | 2039 | 2145 | S20 | E26 | 5521 | 06 | 9.8 | 75 | 1N | 3 | E | | | 117 | | UE |
| | HOLL | 07 | 2030 | 2044 | 2145 | S20 | E26 | 5521 | 06 | 9.8 | 75 | 1N | | | E | | 156 | | K |
| | RAMY | 07 | 2036 | 2050 | 2132 | S19 | E27 | 5521 | 06 | 9.9 | 56 | 1N M 2.4 | 3 | E | | | 145 | | F |
| | PALE | 07 | 2037 | 2053 | 2131 | S19 | E23 | 5521 | 06 | 9.6 | 54 | 1F | 3 | E | | | 140 | | F |
| 0206 | RAMY | 07 | 2045 | 2047 | 2050 | S11 | E90 | 5530 | 06 | 14.6 | 5 | SF | | 3 | E | | 33 | | |
| 0207 | HOLL | 07 | 2154 | 2157 | 2205 | S18 | E25 | 5521 | 06 | 9.8 | 11 | SF | | 3 | E | | 13 | | |
| 0208 | | 07 | 21557 | 22027 | 2228 | S21 | W14 | 5517 | 06 | 6.8 | 33 | SF | | | | | 68 | 1.4 | EF |
| | HOLL | 07 | 2155 | 2205 | 2232 | S21 | W15 | 5517 | 06 | 6.8 | 37 | SF | | 3 | E | | 63 | | F |
| | VORO | 07 | 2156 | 2202 | 2228 | S22 | W13 | 5517 | 06 | 6.9 | 32 | SF | | 1 | C | 2202 | 125 | 1.4 | E |
| | PALE | 07 | 2202 | 2209 | 2223 | S20 | W15 | 5517 | 06 | 6.8 | 21 | SF | | 3 | E | | 17 | | |
| 0209 | | 07 | 2209* | 2212* | 2250 | N26 | E75 | 5528 | 06 | 13.7 | 41 | SF | | | | | 47 | | EFK |
| | VORO | 07 | 2209 | 2212 | 2227 | N27 | E75 | 5528 | 06 | 13.8 | 18 | SF | | 1 | C | 2212 | 45 | | E |
| | HOLL | 07 | 2211E | 2214U | 2312 | N28 | E73 | 5528 | 06 | 13.6 | 61D | 1F | 3 | E | | 105 | | F | |
| | HOLL | 07 | 2211E | 2241 | 2312 | N28 | E73 | 5528 | 06 | 13.6 | 61D | 1F | | | E | | 24 | | K |
| | PALE | 07 | 2218 | 2219 | 2224 | N22 | E77 | 5528 | 06 | 13.8 | 6 | SF | | 3 | E | | 33 | | F |
| | PALE | 07 | 2232 | 2241 | 2257 | N25 | E78 | 5528 | 06 | 14.0 | 25 | SF | | 3 | E | | 26 | | F |
| 0210 | HOLL | 07 | 2249 | 2252 | 2308 | S18 | E26 | 5521 | 06 | 9.9 | 19 | SF | | 3 | E | | 13 | | F |
| 0211 | HOLL | 07 | 2317 | 2319 | 2332 | N21 | E90 | 5528 | 06 | 14.9 | 15 | SF | | 3 | E | | 43 | | |
| 0212 | HOLL | 08 | 0007 | 0007 | 0016 | S17 | E25 | 5521 | 06 | 9.9 | 9 | SF | | 3 | E | | 17 | | F |
| 0213 | | 08 | 00191 | 00202 | 0033 | S16 | E26 | 5521 | 06 | 10.0 | 14 | SF | | | | | 59 | 1.2 | EF1JT |
| | VORO | 08 | 0019 | 0022 | 0034 | S16 | E26 | 5521 | 06 | 10.0 | 15 | SF | | 1 | C | 0022 | 99 | 1.2 | E1JT |
| | HOLL | 08 | 0020 | 0020 | 0032 | S17 | E25 | 5521 | 06 | 9.9 | 12 | SF | | 3 | E | | 19 | | F |

H α SOLAR FLARES

15
Jun 89

JUNE 1989

| Grp # | Sta | Start Day | 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) | |
| 0214 | HOLL | 08 0021 | 0033 | 0042 | N20 | E84 | 5528 | 06 14.4 | 21 | SF | 3 E | | 51 | | EF |
| 0215 | PALE | 08 0148 | 0150 | 0155 | S20 | E24 | 5521 | 06 9.9 | 7 | SB | 3 E | | 90 | | |
| 0216 | YUNN | 08 0222 | 0228 | 0250 | S20 | E27 | 5521 | 06 10.2 | 28 | SF | C | | 80 | 1.0 | F |
| 0217 | SVTO | 08 0437E | 0445 | 0507 | N20 | E83 | 5528 | 06 14.5 | 30D | 1F | 3 E | | 115 | | |
| 0218 | HTPR | 08 0503E | | 0548 | N10 | W70 | 5529 | 06 2.9 | 45D | SF | | 0511 | 30 | | E |
| 0219 | HTPR | 08 0513 | 0515 | 0520 | N20 | E90 | 5528 | 06 15.1 | 7 | SB | | 0515 | 30 | | |
| 0220 | | 08 0609* | 0614* | 0634 | N20 | E87 | 5528 | 06 14.9 | 25 | 1N | | | 102 | | AEF |
| | SVTO | 08 0609 | 0614 | 0633 | N21 | E81 | 5528 | 06 14.5 | 24 | SF | 3 E | | 30 | | F |
| | ABST | 08 0614E | 0627U | 0639D | N18 | E90 | 5528 | 06 15.1 | 25D | 1N | P | 0627 | 175 | | E |
| | YUNN | 08 0626 | 0629 | 0636 | N20 | E90 | 5528 | 06 15.1 | 10 | | C | | | | A |
| 0221 | | 08 06072 | 06091 | 0627 | S24 | E04 | 5520 | 06 8.6 | 20 | SF | | | 28 | 0.4 | E |
| | HTPR | 08 0607 | 0610 | 0622 | S25 | E01 | 5520 | 06 8.3 | 15 | SF | | 0610 | 40 | 0.4 | E |
| | SVTO | 08 0609 | 0609 | 0632 | S24 | E06 | 5520 | 06 8.7 | 23 | SF | 3 E | | 15 | | |
| 0222 | | 08 0646* | 0651* | 0729 | S21 | E26 | 5522D | 06 10.3 | 43 | SN C 9.9 | | | 85 | 1.2 | EF |
| | YUNN | 08 0646 | 0651 | 0717 | S22 | E26 | 5522D | 06 10.3 | 31 | SN | P | | 96 | 1.2 | F |
| | SVTO | 08 0650 | 0703 | 0716 | S20 | E25 | 5522D | 06 10.2 | 26 | SN C 9.9 | 3 E | | 61 | | F |
| | ABST | 08 0653E | 0658U | 0755D | S21 | E26 | 5522D | 06 10.3 | 62D | SN | P | 0658 | 87 | 1.1 | E |
| | YUNN | 08 0734 | 0742 | 0754 | S21 | E25 | 5522D | 06 10.2 | 20 | SN | C | | 96 | 1.2 | |
| 0223 | HTPR | 08 0650 | 0701 | 0723 | S22 | E09 | 5520 | 06 9.0 | 33 | SB | | 0701 | 130 | 1.4 | EI |
| 0224 | YUNN | 08 0810E | 0810U | 0812 | N13 | W73 | 5529 | 06 2.8 | 2D | SN | P | 0810 | 64 | | |
| 0225 | HTPR | 08 0818 | 0825 | 0840 | S10 | E84 | 5530 | 06 14.6 | 22 | SF | | 0825 | 30 | | |
| 0226 | HTPR | 08 0904 | 0907 | 0922 | N15 | E14 | 5531 | 06 9.4 | 18 | SF | | 0907 | 120 | 1.2 | EI |
| 0227 | | 08 0903* | 0909* | 0943 | S21 | E22 | 5521 | 06 10.1 | 40 | 1N M 1.2 | | | 190 | 2.5 | EFIK |
| | YUNN | 08 0903 | 0917 | 0924D | S21 | E24 | 5521 | 06 10.2 | 21D | 1B | P | | 305 | 3.7 | F |
| | HTPR | 08 0906 | 0916 | 0941 | S20 | E22 | 5521 | 06 10.1 | 35 | 1B | | 0916 | 220 | 2.4 | EI |
| | KHAR | 08 0907 | 0914 | 0944 | S20 | E24 | 5521 | 06 10.2 | 37 | 1N | 2 P | 0911 | 190 | 2.1 | E |
| | SVTO | 08 0908 | 0909 | 0953 | S20 | E24 | 5521 | 06 10.2 | 45 | 1B | E | | 135 | | K |
| | SVTO | 08 0908 | 0920 | 0953 | S20 | E24 | 5521 | 06 10.2 | 45 | 1N M 1.2 | 3 E | | 129 | | F |
| | HTPR | 08 0915 | 0915 | 0926 | S22 | E16 | 5521 | 06 9.6 | 11 | SN | | 0915 | 80 | 0.9 | E |
| | ATHN | 08 0920E | 0923 | 0929D | S23 | E22 | 5521 | 06 10.1 | 9D | 1F | 3 V | 0923 | 271 | 3.2 | |
| 0228 | | 08 09203 | 09274 | 0940 | N10 | W70 | 5529 | 06 3.1 | 20 | SF | | | 28 | | DE |
| | HTPR | 08 0920 | 0931 | 0940 | N10 | W70 | 5529 | 06 3.1 | 20 | SN | | 0931 | 30 | | E |
| | SVTO | 08 0922 | 0927 | 0939 | N09 | W71 | 5529 | 06 3.1 | 17 | SF | 3 E | | 25 | | |
| | KHAR | 08 0923 | 0927 | 0940 | N10 | W70 | 5529 | 06 3.1 | 17 | SF | 2 V | 0927 | | | D |
| 0229 | KHAR | 08 1002 | 1005 | 1025 | S21 | E08 | 5520 | 06 9.0 | 23 | SF | 2 P | 1006 | 150 | 1.6 | E |
| 0230 | KHAR | 08 1025 | 1030 | 1035 | N17 | E85 | 5528 | 06 14.9 | 10 | SF | 2 V | 1030 | | | D |
| 0231 | KHAR | 08 1040 | 1042 | 1045 | S07 | E85 | 5530 | 06 14.8 | 5 | SF | 2 V | 1042 | | | D |
| 0232 | | 08 10493 | 10513 | 1104 | N16 | E85 | 5528 | 06 14.9 | 15 | SN | | | 20 | | KL |
| | HTPR | 08 1049 | 1051 | 1057 | N16 | E85 | 5528 | 06 14.9 | 8 | SN | | 1051 | 20 | | |
| | KHAR | 08 1052 | 1054 | 1112 | N17 | E85 | 5528 | 06 14.9 | 20 | SN | 2 V | 1054 | | | KL |
| 0233 | | 08 1055* | 11079 | 1126 | N10 | W72 | 5529 | 06 3.0 | 31 | SF | | | 21 | | |
| | HTPR | 08 1055 | 1116 | 1130 | N10 | W71 | 5529 | 06 3.1 | 35 | SF | | 1116 | 30 | | |
| | SVTO | 08 1105 | 1107 | 1123 | N09 | W73 | 5529 | 06 3.0 | 18 | SF | 3 E | | 12 | | |
| 0234 | | 08 11205 | 11278 | 1134 | N20 | E81 | 5528 | 06 14.7 | 14 | SN | | | 22 | | |
| | HTPR | 08 1120 | 1127 | 1134 | N20 | E86 | 5528 | 06 15.0 | 14 | SB | | 1127 | 30 | | |
| | SVTO | 08 1125 | 1127 | 1130 | N22 | E80 | 5528 | 06 14.6 | 5 | SF | 3 E | | 21 | | |
| | RAMY | 08 1134E | 1135 | 1139 | N19 | E78 | 5528 | 06 14.4 | 5D | SF | 3 E | | 15 | | |

16
Jun 89

H α SOLAR FLARES

JUNE 1989

| Grp # | Sta | Day | Start (UT) | Max (UT) | End (UT) | Lat | CMD | NOAA/ USAF | | CMP Mo | Dur (Min) | Imp Opt | Xray | Obs See | Type | Time (UT) | Area Measurement | | Remarks | |
|-------|------|-----|------------|----------|----------|-----------------|-----|------------|-------|--------|-----------|----------|------|---------|------|-----------|----------------------|---------------|---------|--|
| | | | | | | | | Region | Class | | | | | | | | Apparent (10-6 Disk) | Corr (Sq Deg) | | |
| 0235 | | 08 | 11572 | 1158* | 1224 | S19 | E17 | 5521 | 06 | 9.8 | 27 | SF | | | | | 67 | 1.6 | EFHI | |
| | SVTO | 08 | 1157 | 1158 | 1238 | S19 | E16 | 5521 | 06 | 9.7 | 41 | SF | | 3 | E | | 34 | | FH | |
| | HTPR | 08 | 1157 | 1201 | 1215 | S20 | E17 | 5521 | 06 | 9.8 | 18 | SF | | | | 1201 | 150 | 1.6 | EI | |
| | RAMY | 08 | 1159 | 1211 | 1218 | S19 | E17 | 5521 | 06 | 9.8 | 19 | SF | | 3 | E | | 17 | | | |
| 0236 | | 08 | 1243 | 1244 | 1248 | N20 | E80 | 5528 | 06 | 14.6 | 5 | SN | | | | | 24 | | | |
| | HTPR | 08 | 1243 | 1244 | 1246 | N20 | E86 | 5528 | 06 | 15.1 | 3 | SN | | | | 1244 | 30 | | | |
| | RAMY | 08 | 1243 | 1244 | 1251 | N19 | E74 | 5528 | 06 | 14.2 | 8 | SF | | 3 | E | | 17 | | | |
| 0237 | | 08 | 1243* | 1257 | 1316 | S19 | E16 | 5521 | 06 | 9.7 | 33 | SF | | | | | 19 | | F | |
| | SVTO | 08 | 1243 | 1257 | 1327 | S19 | E16 | 5521 | 06 | 9.7 | 44 | SF | | 3 | E | | 26 | | | |
| | RAMY | 08 | 1253 | 1257 | 1306 | S19 | E16 | 5521 | 06 | 9.7 | 13 | SF | | 3 | E | | 12 | | F | |
| 0238 | SVTO | 08 | 1314 | 1322 | 1326 | S07 | E79 | 5530 | 06 | 14.5 | 12 | SF | | 3 | E | | 17 | | | |
| 0239 | HTPR | 08 | 1322 | 1329 | 1333 | N16 | E84 | 5528 | 06 | 14.9 | 11 | 1F | | | | 1329 | 100 | | A | |
| 0240 | RAMY | 08 | 1327 | 1329 | 1333 | N19 | E74 | 5528 | 06 | 14.2 | 6 | SF | | 3 | E | | 17 | | F | |
| 0241 | HTPR | 08 | 1343 | 1350 | 1403 | N16 | E84 | 5528 | 06 | 14.9 | 20 | SF | | | | 1350 | 50 | | A | |
| 0242 | HTPR | 08 | 1540 | 1541 | 1546 | S10 | E88 | 5530 | 06 | 15.3 | 6 | SN | | | | 1541 | 50 | | | |
| 0243 | HTPR | 08 | 1601 | 1602 | 1607 | N20 | E77 | 5528 | 06 | 14.5 | 6 | SN | | | | 1602 | 30 | | | |
| 0244 | RAMY | 08 | 1646 | 1646 | 1653 | S19 | E16 | 5521 | 06 | 9.9 | 7 | SF | | 3 | E | | 17 | | | |
| 0245 | | 08 | 17322 | 17341 | 1739 | N20 | E76 | 5528 | 06 | 14.5 | 7 | SF | | | | | 26 | | | |
| | HTPR | 08 | 1732 | 1734 | 1738 | N20 | E77 | 5528 | 06 | 14.6 | 6 | SN | | | | 1734 | 30 | | | |
| | HOLL | 08 | 1734 | 1734 | 1740 | N20 | E77 | 5528 | 06 | 14.6 | 6 | SF | | 3 | E | | 28 | | | |
| | RAMY | 08 | 1734 | 1735 | 1740 | N21 | E75 | 5528 | 06 | 14.5 | 6 | SF | | 3 | E | | 21 | | | |
| 0246 | PALE | 08 | 2017 | 2017 | 2021 | S20 | E13 | 5521 | 06 | 9.8 | 4 | SF | | 3 | E | | 12 | | | |
| | | 08 | 2042 | | 2052 | No Flare Patrol | | | | | | | | | | | | | | |
| | | 08 | 2119 | | 2130 | No Flare Patrol | | | | | | | | | | | | | | |
| | | 08 | 2136 | | 2141 | No Flare Patrol | | | | | | | | | | | | | | |
| | | 08 | 2152 | | 2156 | No Flare Patrol | | | | | | | | | | | | | | |
| | | 08 | 2212 | | 2230 | No Flare Patrol | | | | | | | | | | | | | | |
| | | 08 | 2319 | | 2329 | No Flare Patrol | | | | | | | | | | | | | | |
| | | 08 | 2333 | | 2344 | No Flare Patrol | | | | | | | | | | | | | | |
| | | 08 | 2349 | | 2400 | No Flare Patrol | | | | | | | | | | | | | | |
| | | 09 | 0000 | | 0004 | No Flare Patrol | | | | | | | | | | | | | | |
| 0247 | PALE | 09 | 0006 | 0013 | 0028 | S24 | W03 | 5520 | 06 | 8.8 | 22 | SF | | 3 | E | | 50 | | F | |
| 0248 | | 09 | 0006 | 0032U | 0138 | S21 | E10 | 5521 | 06 | 9.8 | 92 | 2N M 2.3 | | | | | 377 | 7.5 | FU | |
| | PALE | 09 | 0006 | 0032U | 0159D | S22 | E09 | 5521 | 06 | 9.7 | 113D | 2F M 2.3 | 3 | E | | | 317 | | UF | |
| | PURP | 09 | 0036E | 0036U | 0036D | S21 | E12 | 5521 | 06 | 9.9 | 113D | 2B | | | | 0036 | 663 | 7.5 | | |
| | HOLL | 09 | 0130E | 0130U | 0138 | S19 | E10 | 5521 | 06 | 9.8 | 8D | 1F | 2 | E | | | 152 | | F | |
| | | 09 | 0019 | | 0029 | No Flare Patrol | | | | | | | | | | | | | | |
| | | 09 | 0037 | | 0113 | No Flare Patrol | | | | | | | | | | | | | | |
| | | 09 | 0153 | | 0157 | No Flare Patrol | | | | | | | | | | | | | | |
| 0249 | PALE | 09 | 0248 | 0248 | 0253 | N18 | E75 | 5528 | 06 | 14.8 | 5 | SF | | 3 | E | | 24 | | F | |
| | | 09 | 0255 | | 0324 | No Flare Patrol | | | | | | | | | | | | | | |
| | | 09 | 0339 | | 0344 | No Flare Patrol | | | | | | | | | | | | | | |
| 0250 | PALE | 09 | 0403 | 0407 | 0413 | N18 | E74 | 5528 | 06 | 14.8 | 10 | SF | | 3 | E | | 36 | | | |
| 0251 | SVTO | 09 | 0516 | 0518U | 0523 | S07 | E69 | 5530 | 06 | 14.4 | 7 | SF | | 3 | E | | 31 | | | |
| 0252 | SVTO | 09 | 0517 | 0524 | 0556 | N16 | W65 | 5518B | 06 | 4.3 | 39 | 1F | | 3 | E | | 104 | | F | |
| 0253 | | 09 | 0544 | 0548 | 0556 | N22 | E72 | 5528 | 06 | 14.8 | 12 | 1N C 8.3 | | | | | 122 | | E | |
| | SVTO | 09 | 0544 | 0548 | 0557 | N23 | E72 | 5528 | 06 | 14.8 | 13 | SF C 8.3 | 3 | E | | | 104 | | | |
| | HTPR | 09 | 0548E | | 0555 | N22 | E72 | 5528 | 06 | 14.8 | 7D | 1B | | | | 0548 | 140 | | E | |

H α SOLAR FLARES

17
Jun 89

JUNE 1989

| Grp # | Sta | Day | Start (UT) | Max (UT) | End (UT) | NOAA/USAF | | | | Dur (Min) | Imp Opt | Xray | Obs See | Type | Area Measurement | | | Remarks | |
|-------|------|-----|------------|----------|----------|-----------|-----|--------|----|-----------|---------|------|---------|------|------------------|-----------|----------------------------------|---------|---------------|
| | | | | | | Lat | CMD | Region | Mo | | | | | | Day | Time (UT) | Apparent (10 ⁻⁶ Disk) | | Corr (Sq Deg) |
| 0254 | | 09 | 0709* | 0806* | 0836 | S20 | E09 | 5521 | 06 | 10.0 | 87 | SN | M 2.4 | | | 95 | 1.3 | EFKR | |
| | ISTA | 09 | 0709 | | 0751 | S21 | E08 | 5521 | 06 | 9.9 | 42 | 1N | | V | | | | F | |
| | SVTO | 09 | 0711 | 0806 | 0855 | S20 | E10 | 5521 | 06 | 10.1 | 104 | SN | | E | | 64 | | K | |
| | SVTO | 09 | 0711 | 0816 | 0855 | S20 | E10 | 5521 | 06 | 10.1 | 104 | SF | M 2.4 | 3 | E | 64 | | F | |
| | KAND | 09 | 0805 | 0816 | 0835 | S21 | E09 | 5521 | 06 | 10.0 | 30 | SN | | P | 0816 | 104 | 1.1 | E | |
| | URUM | 09 | 0810 | 0815 | 0841 | S21 | E09 | 5521 | 06 | 10.0 | 31 | SN | | C | | 113 | 1.3 | E | |
| | KHAR | 09 | 0815 | 0818 | 0830 | S21 | E13 | 5521 | 06 | 10.3 | 15 | SF | | 2 | P | 0820 | 130 | 1.4 | R |
| | KANZ | 09 | 0815 | 0819 | 0843 | S20 | E09 | 5521 | 06 | 10.0 | 28 | SF | | V | | | | E | |
| | KHAR | 09 | 0833 | 0834 | 0842 | S20 | E07 | 5521 | 06 | 9.9 | 9 | SF | | 2 | V | 0834 | | | E |
| 0255 | KHAR | 09 | 0723 | 0728 | 0735 | S18 | E90 | 5533 | 06 | 16.2 | 12 | SN | | 2 | V | 0730 | | | DR |
| 0256 | KHAR | 09 | 0738 | 0744 | 0748 | S10 | E75 | 5530 | 06 | 14.9 | 10 | SF | | 2 | V | 0744 | | | D |
| 0257 | HTPR | 09 | 0747 | 0750 | 0751 | N20 | E67 | 5528 | 06 | 14.4 | 4 | SF | | | | 0750 | 20 | 0.5 | |
| 0258 | | 09 | 0750* | 0752* | 0820 | S18 | E89 | 5533 | 06 | 16.1 | 30 | SN | | | | 79 | | | ADEKR |
| | KHAR | 09 | 0750 | 0752 | 0820 | S18 | E90 | 5533 | 06 | 16.2 | 30 | 1N | | 2 | P | 0755 | 130 | | |
| | HTPR | 09 | 0750 | 0754 | 0808 | S18 | E90 | 5533 | 06 | 16.2 | 18 | SB | | | | 0754 | 60 | | EK |
| | SVTO | 09 | 0751 | 0758 | 0816 | S19 | E90 | 5533 | 06 | 16.2 | 25 | SF | | 3 | E | | | | |
| | KANZ | 09 | 0752 | 0752 | 0811 | S18 | E90 | 5533 | 06 | 16.2 | 19 | 1F | | V | | | | | |
| | URUM | 09 | 0755 | 0759 | 0830 | S19 | E85 | 5533 | 06 | 15.8 | 35 | SN | | C | | 48 | | | A |
| | KHAR | 09 | 0828 | 0829 | 0833 | S17 | E90 | 5533 | 06 | 16.2 | 5 | SF | | 2 | V | 0829 | | | DR |
| 0259 | KHAR | 09 | 0845 | 0851 | 0903 | S18 | E90 | 5533 | 06 | 16.2 | 18 | SF | | 2 | V | 0851 | | | DR |
| 0260 | HTPR | 09 | 0906E | | 0915D | N16 | E05 | 5531 | 06 | 9.7 | 9D | SF | | | | 0909 | 70 | 0.7 | E |
| 0261 | HTPR | 09 | 0906E | | 0915D | S22 | E12 | 5522A | 06 | 10.3 | 9D | SF | | | | 0907 | 150 | 1.6 | EF1 |
| 0262 | | 09 | 09261 | 0927 | 0938 | S20 | E11 | 5521 | 06 | 10.2 | 12 | SF | | | | 80 | 0.9 | E | |
| | KHAR | 09 | 0926 | | 0940 | S20 | E12 | 5521 | 06 | 10.3 | 14 | SF | | 2 | V | 0926 | | | E |
| | URUM | 09 | 0927 | 0927 | 0935 | S21 | E10 | 5521 | 06 | 10.2 | 8 | SF | | C | | 80 | 0.9 | E | |
| 0263 | | 09 | 09421 | 09434 | 0959 | S18 | E88 | 5533 | 06 | 16.1 | 17 | 1N | | | | 199 | | | ADR |
| | SVTO | 09 | 0942 | 0944 | 0956 | S16 | E85 | 5533 | 06 | 15.8 | 14 | 1F | | 3 | E | | 117 | | |
| | KHAR | 09 | 0942 | 0945 | 1005 | S18 | E90 | 5533 | 06 | 16.2 | 23 | SN | | 2 | V | 0945 | | | DR |
| | KANZ | 09 | 0943 | 0943 | 0955 | S18 | E85 | 5533 | 06 | 15.9 | 12 | SF | | V | | | | | |
| | CATA | 09 | 0947E | 0947 | 0955D | S19 | E90 | 5533 | 06 | 16.3 | 8D | 2B | | 1 | P | 0947 | 281 | | A |
| 0264 | | 09 | 10122 | 1021 | 1031 | S18 | E09 | 5521 | 06 | 10.1 | 19 | SF | | | | 122 | 2.1 | E | |
| | ATHN | 09 | 1012E | 1012U | 1018D | S16 | E10 | 5521 | 06 | 10.2 | 6D | 1F | | 3 | V | 1012 | 191 | 2.1 | |
| | SVTO | 09 | 1012 | 1021 | 1033 | S18 | E08 | 5521 | 06 | 10.0 | 21 | SF | | 3 | E | | 54 | | |
| | KHAR | 09 | 1013 | | 1028 | S20 | E12 | 5521 | 06 | 10.3 | 15 | SF | | 2 | V | 1017 | | | E |
| | KANZ | 09 | 1014 | 1021 | 1031 | S20 | E07 | 5521 | 06 | 10.0 | 17 | SF | | V | | | | | E |
| 0265 | | 09 | 11209 | 11254 | 1134 | S18 | E90 | 5533 | 06 | 16.3 | 14 | 1N | | | | 132 | | | A |
| | CATA | 09 | 1120 | 1125 | 1140D | S19 | E90 | 5533 | 06 | 16.3 | 20D | 2B | | 2 | P | 1125 | 225 | | A |
| | SVTO | 09 | 1126 | 1127 | 1131 | S17 | E90 | 5533 | 06 | 16.3 | 5 | SF | | 3 | E | | 38 | | |
| | KANZ | 09 | 1129 | 1129 | 1136 | S18 | E90 | 5533 | 06 | 16.3 | 7 | SF | | V | | | | | |
| 0266 | | 09 | 12453 | 12541 | 1318 | S19 | E09 | 5521 | 06 | 10.2 | 33 | SF | | | | 42 | | | |
| | SVTO | 09 | 1245 | 1254 | 1314 | S19 | E10 | 5521 | 06 | 10.3 | 29 | SF | | 3 | E | | 47 | | |
| | RAMY | 09 | 1248 | 1254 | 1330 | S19 | E09 | 5521 | 06 | 10.2 | 42 | SF | | 3 | E | | 38 | | |
| | KANZ | 09 | 1248 | 1255 | 1309 | S19 | E09 | 5521 | 06 | 10.2 | 21 | SF | | V | | | | | |
| 0267 | | 09 | 13053 | 13093 | 1316 | S16 | E82 | 5533 | 06 | 15.8 | 11 | SF | | | | 22 | | | |
| | KANZ | 09 | 1305 | 1309 | 1316 | S17 | E80 | 5533 | 06 | 15.6 | 11 | SF | | V | | | | | |
| | SVTO | 09 | 1308 | 1312 | 1315 | S15 | E83 | 5533 | 06 | 15.8 | 7 | SF | | 3 | E | | 22 | | |
| 0268 | | 09 | 1324 | 13261 | 1336 | S17 | E88 | 5533 | 06 | 16.2 | 12 | SF | | | | 30 | | | |
| | SVTO | 09 | 1324 | 1326 | 1333 | S16 | E88 | 5533 | 06 | 16.2 | 9 | SF | | 3 | E | | 30 | | |
| | KANZ | 09 | 1324 | 1327 | 1339 | S18 | E88 | 5533 | 06 | 16.2 | 15 | SF | | V | | | | | |
| 0269 | | 09 | 13311 | 13323 | 1351 | S09 | E69 | 5530 | 06 | 14.7 | 20 | SF | | | | 22 | | | |
| | KANZ | 09 | 1331 | 1335 | 1357 | S10 | E69 | 5530 | 06 | 14.7 | 26 | SF | | V | | | | | |
| | HOLL | 09 | 1332 | 1332 | 1340 | S10 | E68 | 5530 | 06 | 14.7 | 8 | SF | | 3 | E | | 20 | | |
| | SVTO | 09 | 1332 | 1334 | 1355 | S08 | E69 | 5530 | 06 | 14.7 | 23 | SF | | 3 | E | | 24 | | |

18
Jun 89

H α SOLAR FLARES

JUNE 1989

| Grp # | 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) | | |
| 0270 | SVTO | 09 | 1455 | 1456 | 1504 | N18 | E65 | 5528 | 06 | 14.6 | 9 | SF | | 3 | E | | | 43 | | |
| 0271 | HOLL | 09 | 1505 | 1508 | 1512 | S18 | E90 | 5533 | 06 | 16.5 | 7 | SF | | 3 | E | | | 16 | | |
| 0272 | HOLL | 09 | 1513 | 1521 | 1528 | S21 | E02 | 5521 | 06 | 9.8 | 15 | SF | | 3 | E | | | 27 | | |
| 0273 | 09 | 15321 | 1535 | 1548 | N16 | E56 | 5528 | 06 | 13.9 | 16 | SF | | | | | | | 53 | | |
| | HOLL | 09 | 1532 | 1535 | 1548 | N17 | E56 | 5528 | 06 | 13.9 | 16 | SF | | 3 | E | | | 69 | | |
| | RAMY | 09 | 1533 | 1535 | 1548 | N16 | E56 | 5528 | 06 | 13.9 | 15 | SF | | 3 | E | | | 37 | | |
| 0274 | HOLL | 09 | 1625 | 1632 | 1641 | S21 | E77 | 5533 | 06 | 15.6 | 16 | SF | | 3 | E | | | 40 | | |
| 0275 | HOLL | 09 | 1625 | 1625 | 1629 | S20 | E04 | 5521 | 06 | 10.0 | 4 | SF | | 3 | E | | | 25 | | |
| 0276 | RAMY | 09 | 1627 | 1631 | 1637D | S20 | E90 | 5533 | 06 | 16.6 | 10D | SF M | 1.9 | 3 | E | | | 80 | | |
| 0277 | 09 | 1802 | 1804 | 1818 | S12 | W04 | 5532 | 06 | 9.4 | 16 | SF | | | | | | | 16 | | |
| | HOLL | 09 | 1802 | 1804 | 1818 | S11 | W05 | 5532 | 06 | 9.4 | 16 | SF | | 3 | E | | | 19 | | |
| | RAMY | 09 | 1806E | 1806U | 1819 | S12 | W04 | 5532 | 06 | 9.4 | 13D | SF | | 2 | E | | | 14 | | |
| 0278 | HOLL | 09 | 1841 | 1842 | 1845 | S18 | E82 | 5533 | 06 | 16.0 | 4 | SF | | 3 | E | | | 11 | | |
| 0279 | 09 | 1913E | 1917U | 1954 | S10 | E66 | 5530 | 06 | 14.7 | 41D | 1N C | 7.8 | | | | | | 126 | | EF |
| | HOLL | 09 | 1913E | 1923U | 1957 | S10 | E65 | 5530 | 06 | 14.7 | 44D | 1N C | 7.8 | 3 | E | | | 165 | | F |
| | RAMY | 09 | 1917E | 1917U | 1950 | S11 | E67 | 5530 | 06 | 14.8 | 33D | SN C | 7.8 | 2 | E | | | 86 | | FE |
| 0280 | HOLL | 09 | 2252 | 2255 | 2258 | S20 | E90 | 5533 | 06 | 16.8 | 6 | SF M | 6.3 | 3 | E | | | 31 | | |
| 0281 | 09 | 23516 | 24011 | 2408 | S20 | E02 | 5521 | 06 | 10.1 | 17 | SF | | | | | | | 20 | | |
| | HOLL | 09 | 2351 | 2402 | 2409 | S20 | E02 | 5521 | 06 | 10.1 | 18 | SF | | 3 | E | | | 22 | | |
| | PALE | 09 | 2357 | 2401 | 2408 | S21 | E01 | 5521 | 06 | 10.1 | 11 | SF | | 3 | E | | | 18 | | |
| 0282 | 10 | 00031 | 00113 | 0018 | S20 | E79 | 5533 | 06 | 16.0 | 15 | SF | | | | | | | 17 | | |
| | PALE | 10 | 0003 | 0011 | 0018 | S20 | E74 | 5533 | 06 | 15.7 | 15 | SF | | 3 | E | | | 15 | | |
| | HOLL | 10 | 0004 | 0014 | 0019 | S19 | E84 | 5533 | 06 | 16.4 | 15 | SF | | 3 | E | | | 19 | | |
| 0283 | 10 | 00164 | 0027* | 0042 | N20 | E62 | 5528 | 06 | 14.7 | 26 | SF | | | | | | | 24 | | |
| | HOLL | 10 | 0016 | 0027 | 0040 | N18 | E59 | 5528 | 06 | 14.5 | 24 | SF | | 3 | E | | | 31 | | |
| | PALE | 10 | 0020 | 0038 | 0043 | N21 | E64 | 5528 | 06 | 14.9 | 23 | SF | | 3 | E | | | 17 | | |
| 0284 | PALE | 10 | 0042 | 0050 | 0058 | S20 | E74 | 5533 | 06 | 15.7 | 16 | SF | | 3 | E | | | 28 | | |
| 0285 | 10 | 01015 | 01121 | 0139 | S20 | E85 | 5533 | 06 | 16.5 | 38 | 1F | | | | | | | 92 | | DHI |
| | PALE | 10 | 0101 | 0113 | 0137 | S21 | E85 | 5533 | 06 | 16.5 | 36 | SF | | 3 | E | | | 76 | | |
| | VORO | 10 | 0106 | 0112 | 0141 | S18 | E85 | 5533 | 06 | 16.5 | 35 | 1F | | 1 | C | 0112 | | 108 | | DIH |
| 0286 | PALE | 10 | 0157 | 0158 | 0202 | S21 | E84 | 5533 | 06 | 16.5 | 5 | SF | | 3 | E | | | 20 | | |
| 0287 | PALE | 10 | 0224 | 0228 | 0233 | S20 | E83 | 5533 | 06 | 16.4 | 9 | SF | | 3 | E | | | 18 | | |
| 0288 | 10 | 0316 | 03195 | 0327 | S12 | W11 | 5532 | 06 | 9.3 | 11 | SN | | | | | | | 129 | 1.4 | E |
| | URUM | 10 | 0316 | 0319 | 0327 | S13 | W12 | 5532 | 06 | 9.2 | 11 | SN | | | C | | | 161 | 1.7 | E |
| | URUM | 10 | 0316 | 0324 | 0327 | S12 | W11 | 5532 | 06 | 9.3 | 11 | SN | | | C | | | 96 | 1.0 | E |
| | YUNN | 10 | 0320E | 0320U | 0323D | S12 | W11 | 5532 | 06 | 9.3 | 3D | SN | | P | | 0320 | | 129 | 1.4 | E |
| 0289 | PALE | 10 | 0354 | 0354 | 0356 | N15 | E61 | 5528 | 06 | 14.8 | 2 | SF | | 3 | E | | | 19 | | |
| 0290 | URUM | 10 | 0445 | 0450 | 0502 | N24 | E61 | 5528 | 06 | 14.9 | 17 | SN | | | C | | | 48 | 1.1 | D |
| 0291 | URUM | 10 | 0502 | 0502 | 0510 | N17 | E60 | 5528 | 06 | 14.8 | 8 | SN | | | C | | | 80 | 1.7 | D |
| 0292 | 10 | 05274 | 05331 | 0555 | S12 | W12 | 5532 | 06 | 9.3 | 28 | 1N | | | | | | | 292 | 4.5 | EU |
| | SVTO | 10 | 0527 | 0533 | 0601 | S12 | W11 | 5532 | 06 | 9.4 | 34 | 1F | | 3 | E | | | 167 | | U |
| | URUM | 10 | 0531 | 0534 | 0549 | S13 | W12 | 5532 | 06 | 9.3 | 18 | 1B | | | C | | | 418 | 4.5 | E |
| 0293 | ATHN | 10 | 0530E | 0535 | 0540 | N22 | E57 | 5528 | 06 | 14.6 | 10D | 1N | | 3 | V | 0535 | | 191 | 4.0 | |
| 0294 | 10 | 05522 | 05524 | 0604 | N27 | E66 | 5528 | 06 | 15.4 | 12 | 1N C | 7.1 | | | | | | 86 | | E |
| | SVTO | 10 | 0552 | 0552 | 0605 | N28 | E65 | 5528 | 06 | 15.3 | 13 | SF C | 7.1 | 3 | E | | | 27 | | |
| | URUM | 10 | 0554 | 0556 | 0604 | N26 | E66 | 5528 | 06 | 15.4 | 10 | 1N | | | C | | | 145 | | E |

H α SOLAR FLARES

19
Jun 89

JUNE 1989

| Grp # | 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) | | |
| 0295 | | 10 | 06107 | 06205 | 0641 | S20 | E86 | 5533 | 06 16.8 | 31 | 2B M 5.0 | | | | 223 | 5.4 | AFORTXY |
| | ATHN | 10 | 0610 | 0620 | 0630 | S21 | E75 | 5533 | 06 16.0 | 20 | 2B | 3 | V | 0620 | 127 | 5.4 | |
| | SVTO | 10 | 0614 | 0620 | 0635 | S18 | E90 | 5533 | 06 17.1 | 21 | 2N M 5.0 | 3 | E | | 289 | | |
| | URUM | 10 | 0615 | 0625 | 0638 | S20 | E84 | 5533 | 06 16.7 | 23 | 1B | | C | | 177 | | A |
| | KANZ | 10 | 0617 | 0620 | 0647 | S19 | E90 | 5533 | 06 17.1 | 30 | 2N | | V | | | | |
| | KHAR | 10 | 0618E | 0625 | 0655 | S20 | E85 | 5533 | 06 16.8 | 37D | 1B | 2 | P | 0626 | 300 | | FORTXY |
| | YUNN | 10 | 0621E | 0623U | 0630D | S21 | E90 | 5533 | 06 17.2 | 9D | | | P | 0623 | | | A |
| 0296 | KANZ | 10 | 0624 | 0624 | 0627 | S15 | W14 | 5532 | 06 9.2 | 3 | SF | | V | | | | |
| 0297 | | 10 | 07217 | 07269 | 0740 | S19 | W05 | 5521 | 06 9.9 | 19 | SF | | | | 42 | 0.6 | D |
| | BUCA | 10 | 0721 | 0735 | 0800 | S20 | W04 | 5521 | 06 10.0 | 39 | SF | | C | 0800 | 54 | 0.6 | D |
| | ISTA | 10 | 0723E | | 0730 | S16 | W10 | 5521 | 06 9.5 | 7D | SN | | V | | | | D |
| | SVTO | 10 | 0725 | 0726 | 0733 | S20 | W01 | 5521 | 06 10.2 | 8 | SF | 3 | E | | 30 | | |
| | KANZ | 10 | 0728 | 0728 | 0736 | S19 | W04 | 5521 | 06 10.0 | 8 | SF | | V | | | | |
| 0298 | | 10 | 07511 | 07532 | 0803 | S17 | E80 | 5533 | 06 16.4 | 12 | SF | | | | 14 | | |
| | KANZ | 10 | 0751 | 0753 | 0805 | S18 | E79 | 5533 | 06 16.3 | 14 | SF | | V | | | | |
| | SVTO | 10 | 0752 | 0755 | 0801 | S16 | E81 | 5533 | 06 16.5 | 9 | SF | 3 | E | | 14 | | |
| 0299 | | 10 | 08223 | 08294 | 0841 | N27 | E64 | 5528 | 06 15.3 | 19 | 1N C 5.8 | | | | 165 | | E |
| | URUM | 10 | 0822 | 0831 | 0841 | N27 | E65 | 5528 | 06 15.4 | 19 | SN | | C | | 64 | | E |
| | SVTO | 10 | 0825 | 0829 | 0841 | N27 | E63 | 5528 | 06 15.2 | 16 | SF C 5.8 | 3 | E | | 37 | | |
| | KANZ | 10 | 0825 | 0829 | 0841 | N26 | E61 | 5528 | 06 15.1 | 16 | SF | | V | | | | |
| | CATA | 10 | 0828E | 0833 | 0900D | N27 | E65 | 5528 | 06 15.4 | 32D | 2B | 1 | P | 0833 | 394 | | |
| 0300 | | 10 | 0829 | 0855 | 0908 | N16 | E62 | 5528 | 06 15.0 | 39 | 1N | | | | | | FL |
| | ISTA | 10 | 0829 | | 0841 | N15 | E65 | 5528 | 06 15.3 | 12 | 1N | | V | | | | F |
| | KHAR | 10 | 0855E | 0855 | 0935 | N16 | E60 | 5528 | 06 14.9 | 40D | 1F | 2 | V | 0855 | | | L |
| 0301 | | 10 | 0903 | 0855* | 0913 | S20 | E85 | 5533 | 06 16.9 | 10 | SN | | | | | | DRTY |
| | KHAR | 10 | 0855E | 0855 | 0906 | S20 | E85 | 5533 | 06 16.9 | 11D | SF | 2 | V | 0900 | | | DTY |
| | KHAR | 10 | 0903 | 0905 | 0920 | S20 | E85 | 5533 | 06 16.9 | 17 | SN | 2 | V | 0905 | | | RT |
| 0302 | | 10 | 09382 | 09434 | 0957 | S18 | E88 | 5533 | 06 17.1 | 19 | 1N M 1.3 | | | | 153 | | RTY |
| | KHAR | 10 | 0938 | 0943 | 0954 | S20 | E85 | 5533 | 06 16.9 | 16 | 1N | 2 | V | 0943 | | | RTY |
| | SVTO | 10 | 0938 | 0946 | 0957 | S17 | E90 | 5533 | 06 17.2 | 19 | 1N M 1.3 | 3 | E | | 153 | | |
| | KANZ | 10 | 0940 | 0947 | 0959 | S18 | E90 | 5533 | 06 17.2 | 19 | 1F | | V | | | | |
| 0303 | | 10 | 10228 | 10269 | 1039 | S18 | E78 | 5533 | 06 16.4 | 17 | SF C 8.1 | | | | 26 | | T |
| | KANZ | 10 | 1022 | 1026 | 1042 | S18 | E75 | 5533 | 06 16.1 | 20 | SF | | V | | | | |
| | SVTO | 10 | 1022 | 1029 | 1036 | S16 | E78 | 5533 | 06 16.3 | 14 | SF C 8.1 | 2 | E | | 26 | | |
| | KHAR | 10 | 1030 | 1035 | 1040D | S20 | E80 | 5533 | 06 16.5 | 10D | SN | 2 | V | 1035 | | | T |
| 0304 | | 10 | 11361 | 11373 | 1144 | S20 | W06 | 5521 | 06 10.0 | 8 | SF | | | | 18 | | F |
| | KANZ | 10 | 1136 | 1140 | 1144 | S20 | W08 | 5521 | 06 9.9 | 8 | SF | | V | | | | |
| | SVTO | 10 | 1137 | 1137 | 1143 | S20 | W05 | 5521 | 06 10.1 | 6 | SF | 2 | E | | 18 | | F |
| 0305 | | 10 | 1159* | 1203* | 1217 | S20 | E86 | 5533 | 06 17.1 | 18 | SN | | | | 16 | | |
| | KANZ | 10 | 1159 | 1203 | 1211 | S20 | E90 | 5533 | 06 17.4 | 12 | SN | | V | | | | |
| | RAMY | 10 | 1213 | 1213 | 1223 | S20 | E81 | 5533 | 06 16.7 | 10 | SF | 2 | E | | 16 | | |
| 0306 | | 10 | 12076 | 12076 | 1224 | S21 | W06 | 5521 | 06 10.0 | 17 | SF M 1.2 | | | | 18 | | F |
| | SVTO | 10 | 1207 | 1207 | 1217 | S21 | W09 | 5521 | 06 9.8 | 10 | SF M 1.2 | 3 | E | | 13 | | F |
| | KANZ | 10 | 1207 | 1211 | 1225 | S21 | W04 | 5521 | 06 10.2 | 18 | SF | | V | | | | |
| | RAMY | 10 | 1213 | 1213 | 1231 | S21 | W04 | 5521 | 06 10.2 | 18 | SF | 2 | E | | 23 | | |
| 0307 | | 10 | 1220* | 1223* | 1306 | N20 | E53 | 5528 | 06 14.6 | 46 | SN M 1.5 | | | | 105 | | FK |
| | RAMY | 10 | 1213E | 1223 | 1254D | N16 | E45 | 5528 | 06 13.9 | 41D | SN | 2 | E | | 85 | | F |
| | SVTO | 10 | 1220 | 1224U | 1313 | N21 | E54 | 5528 | 06 14.6 | 53 | 1N | 3 | E | | 177 | | F |
| | SVTO | 10 | 1220 | 1243 | 1313 | N21 | E54 | 5528 | 06 14.6 | 53 | 1N | | E | | 191 | | K |
| | KANZ | 10 | 1222 | 1225 | 1308 | N17 | E45 | 5528 | 06 13.9 | 46 | SN | | V | | | | |
| | HOLL | 10 | 1224E | 1227U | 1252 | N19 | E54 | 5528 | 06 14.6 | 28D | SN | 3 | E | | 79 | | |
| | HOLL | 10 | 1253 | 1256 | 1302 | N25 | E61 | 5528 | 06 15.3 | 9 | SN M 1.5 | 3 | E | | 48 | | |
| | RAMY | 10 | 1254E | 1256 | 1308D | N24 | E59 | 5528 | 06 15.1 | 14D | SN M 1.5 | 2 | E | | 52 | | |

20
Jun 89

H α SOLAR FLARES

JUNE 1989

| Grp # | Sta | Day | Start (UT) | Max (UT) | End (UT) | Lat | NOAA/ USAF Region | CMP Mo | Dur Day | Imp (Min) | Xray | Obs See | Type | Area Measurement | | | Remarks | |
|-------|------|-----|------------|----------|----------|---------|-------------------------|-----------|------------|--------------|------|------------|------|------------------|----------------------|---------------|---------|----|
| | | | | | | | | | | | | | | Time (UT) | Apparent (10-6 Disk) | Corr (Sq Deg) | | |
| 0308 | | 10 | 14082 | 14115 | 1422 | S20 E84 | 5533 | 06 | 17.0 | 14 | SN | C 6.8 | | | 68 | | | |
| | KANZ | 10 | 1408 | 1411 | 1421 | S20 E82 | 5533 | 06 | 16.9 | 13 | SN | | V | | | | | |
| | HOLL | 10 | 1408 | 1414 | 1425 | S20 E85 | 5533 | 06 | 17.1 | 17 | SB | C 6.8 | 4 | E | 88 | | | |
| | RAMY | 10 | 1409 | 1416 | 1436D | S21 E84 | 5533 | 06 | 17.0 | 27D | SN | C 6.8 | 2 | E | 82 | | | |
| | SVTO | 10 | 1410 | 1416 | 1421 | S18 E83 | 5533 | 06 | 16.9 | 11 | SF | C 6.8 | 2 | E | 35 | | | |
| 0309 | | 10 | 1605 | 1616 | 1722 | S25 W22 | 5520 | 06 | 9.0 | 77 | 1F | | | | 174 | F | | |
| | HOLL | 10 | 1605 | 1616 | 1718 | S27 W18 | 5520 | 06 | 9.3 | 73 | 2N | | 4 | E | 272 | F | | |
| | RAMY | 10 | 1610E | 1610U | 1700D | S25 W23 | 5520 | 06 | 8.9 | 50D | SF | | 1 | E | 81 | F | | |
| | SVTO | 10 | 1627E | 1627U | 1725 | S23 W26 | 5520 | 06 | 8.7 | 58D | F | | 2 | E | 168 | | | |
| 0310 | HOLL | 10 | 1629 | 1634 | 1637 | S19 E73 | 5533 | 06 | 16.2 | 8 | SF | | 4 | E | 13 | | | |
| 0311 | RAMY | 10 | 1641E | 1700U | 1713D | S28 E78 | | 06 | 16.8 | 32D | 1N | | 2 | E | 216 | | | |
| 0312 | SVTO | 10 | 1643 | 1656 | 1659 | S25 W11 | 5521 | 06 | 9.8 | 16 | SF | | 2 | E | 14 | | | |
| 0313 | | 10 | 16502 | 1656 | 1718 | S18 E78 | 5533 | 06 | 16.6 | 28 | 1N | M 1.7 | | | 151 | E | | |
| | HOLL | 10 | 1650 | 1656 | 1725 | S20 E81 | 5533 | 06 | 16.9 | 35 | 1N | M 1.7 | 4 | E | 189 | E | | |
| | SVTO | 10 | 1652 | 1656 | 1712 | S16 E75 | 5533 | 06 | 16.4 | 20 | 1N | M 1.7 | 2 | E | 113 | E | | |
| 0314 | RAMY | 10 | 1739 | 1750 | 1756 | S19 E74 | 5533 | 06 | 16.4 | 17 | SF | | 3 | E | 21 | | | |
| 0315 | | 10 | 1736* | 1756 | 1825 | N20 E52 | 5528 | 06 | 14.7 | 49 | SF | | | | 24 | | | |
| | RAMY | 10 | 1736 | 1756 | 1849 | N19 E52 | 5528 | 06 | 14.7 | 73 | SF | | 3 | E | 35 | | | |
| | HOLL | 10 | 1749 | 1756 | 1801 | N20 E53 | 5528 | 06 | 14.8 | 12 | SF | | 4 | E | 14 | | | |
| 0316 | RAMY | 10 | 1800 | 1802 | 1812 | S21 W12 | 5521 | 06 | 9.8 | 12 | SF | | 3 | E | 18 | | | |
| 0317 | HOLL | 10 | 1839 | 1840 | 1849 | N18 W86 | | 06 | 4.2 | 10 | SF | | 4 | E | 27 | | | |
| 0318 | | 10 | 19041 | 19056 | 1921 | S19 E80 | 5533 | 06 | 16.9 | 17 | SN | M 1.2 | | | 79 | EK | | |
| | HOLL | 10 | 1904 | 1905 | 1920 | S20 E80 | 5533 | 06 | 16.9 | 16 | SB | | | E | 62 | K | | |
| | RAMY | 10 | 1904 | 1905 | 1923 | S20 E83 | 5533 | 06 | 17.1 | 19 | 1B | | | E | 72 | K | | |
| | HOLL | 10 | 1904 | 1911 | 1920 | S20 E80 | 5533 | 06 | 16.9 | 16 | SB | M 1.2 | 4 | E | 92 | | | |
| | RAMY | 10 | 1904 | 1911 | 1923 | S20 E83 | 5533 | 06 | 17.1 | 19 | 1N | M 1.2 | 3 | E | 115 | E | | |
| | PALE | 10 | 1905 | 1905 | 1921 | S16 E73 | 5533 | 06 | 16.3 | 16 | SF | | 3 | E | 54 | | | |
| 0319 | | 10 | 19077 | 19078 | 1928 | N21 E50 | 5528 | 06 | 14.6 | 21 | SF | | | | 37 | | | |
| | HOLL | 10 | 1907 | 1907 | 1927 | N21 E50 | 5528 | 06 | 14.6 | 20 | SF | | 4 | E | 56 | | | |
| | PALE | 10 | 1914 | 1915 | 1929 | N21 E49 | 5528 | 06 | 14.5 | 15 | SF | | 3 | E | 18 | | | |
| 0320 | | 10 | 19571 | 19583 | 2003 | S20 E77 | 5533 | 06 | 16.7 | 6 | SF | | | | 15 | | | |
| | HOLL | 10 | 1957 | 1958 | 2002 | S20 E77 | 5533 | 06 | 16.7 | 5 | SF | | 3 | E | 17 | | | |
| | RAMY | 10 | 1958 | 2001 | 2004 | S20 E77 | 5533 | 06 | 16.7 | 6 | SF | | 4 | E | 13 | | | |
| 0321 | | 10 | 2051 | 2100 | 2114 | S20 E03 | 5524 | 06 | 11.1 | 23 | SF | | | | 45 | F | | |
| | HOLL | 10 | 2051 | 2100 | 2116 | S20 E03 | 5524 | 06 | 11.1 | 25 | SF | | 3 | E | 51 | F | | |
| | RAMY | 10 | 2054E | 2057U | 2113 | S21 E03 | 5524 | 06 | 11.1 | 19D | SF | | 2 | E | 39 | F | | |
| 0322 | RAMY | 10 | 2054E | 2057U | 2102D | S18 W14 | 5521 | 06 | 9.8 | 8D | S | C 6.8 | 2 | E | 14 | H | | |
| 0323 | | 10 | 22191 | 22201 | 2230 | S20 W12 | 5521 | 06 | 10.0 | 11 | SN | | | | 90 | 1.6 | EI | |
| | VORO | 10 | 2219 | 2221 | 2230 | S20 W13 | 5521 | 06 | 9.9 | 11 | SN | | 2 | C | 2221 | 143 | 1.6 | EI |
| | HOLL | 10 | 2220 | 2220 | 2230 | S19 W12 | 5521 | 06 | 10.0 | 10 | SF | | 3 | E | 36 | | | |
| 0324 | | 10 | 2221 | 2223 | 2230 | S20 E76 | 5533 | 06 | 16.7 | 9 | 1F | C 4.3 | | | 53 | | DJT | |
| | HOLL | 10 | 2221 | 2223 | 2226 | S20 E77 | 5533 | 06 | 16.8 | 5 | SF | C 4.3 | 3 | E | 25 | | DJT | |
| | VORO | 10 | 2221 | 2223 | 2233 | S19 E76 | 5533 | 06 | 16.7 | 12 | 1F | | 2 | C | 2223 | 81 | | |
| 0325 | VORO | 10 | 2227 | 2230 | 2253 | N14 W68 | 5525 | 06 | 5.8 | 26 | 1F | | 2 | C | 2239 | 108 | E | |
| 0326 | HOLL | 10 | 2335 | 2339 | 2349 | S19 W13 | 5521 | 06 | 10.0 | 14 | SF | C 3.6 | 3 | E | 18 | | F | |
| 0327 | HOLL | 10 | 2349 | 2353 | 2359 | S18 E73 | 5533 | 06 | 16.5 | 10 | SF | | 3 | E | 21 | | | |
| 0328 | HOLL | 10 | 2350 | 2354 | 2358 | N17 W19 | 5531 | 06 | 9.5 | 8 | SF | | 3 | E | 17 | | | |
| 0329 | HOLL | 11 | 0108 | 0109 | 0117 | N20 E48 | 5528 | 06 | 14.7 | 9 | SF | | 3 | E | 19 | | F | |

H α SOLAR FLARES

21
Jun 89

JUNE 1989

| Grp # | 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) |
| 0330 | YUNN | 11 | 0149 | 0151 | 0157 | S21 | W12 | 5522A | 06 | 10.1 | 8 | SN | | | C | | 64 | 0.7 | |
| 0331 | | 11 | 0249 | 0259 | 0300 | S20 | E78 | 5533 | 06 | 17.1 | 11 | SN | C 3.1 | | | | 32 | | D |
| | LEAR | 11 | 0249 | 0259 | 0306D | S21 | E74 | 5533 | 06 | 16.8 | 17D | SF | C 3.1 | 3 | E | | 31 | | |
| | YUNN | 11 | 0250E | 0250U | 0300 | S20 | E81 | 5533 | 06 | 17.3 | 10D | SN | | | P | 0250 | 32 | | D |
| | | 11 | 0335 | | 0357 | No Flare Patrol | | | | | | | | | | | | | |
| 0332 | KANZ | 11 | 0609 | 0612 | 0616 | S18 | E63 | 5533 | 06 | 16.0 | 7 | SF | | | C | | | | |
| 0333 | KANZ | 11 | 0619 | 0619 | 0626 | S20 | E74 | 5533 | 06 | 16.9 | 7 | SF | | | V | | | | |
| 0334 | KANZ | 11 | 0656 | 0656 | 0704 | S20 | E74 | 5533 | 06 | 16.9 | 8 | SF | | | V | | | | |
| 0335 | ISTA | 11 | 0735 | | 0752 | S18 | E73 | 5533 | 06 | 16.9 | 17 | 1N | | | V | | | | F |
| 0336 | | 11 | 07512 | 0753 | 0805 | S19 | W28 | 5521 | 06 | 9.2 | 14 | SN | | | | | | | DF |
| | ISTA | 11 | 0751 | | 0805 | S19 | W27 | 5521 | 06 | 9.3 | 14 | 1B | | | V | | | | F |
| | KHAR | 11 | 0752 | 0753 | 0805 | S19 | W28 | 5521 | 06 | 9.2 | 13 | SF | | 2 | V | 0756 | | | D |
| | KANZ | 11 | 0753 | 0753 | 0803D | S18 | W29 | 5521 | 06 | 9.1 | 10D | SF | | | V | | | | |
| 0337 | | 11 | 0817 | 08181 | 0827 | S19 | E76 | 5533 | 06 | 17.1 | 10 | SN | | | | | 61 | | E |
| | ISTA | 11 | 0817 | | 0827 | S21 | E79 | 5533 | 06 | 17.4 | 10 | 1B | | | V | | | | E |
| | SVTO | 11 | 0817 | 0818 | 0826 | S18 | E73 | 5533 | 06 | 16.9 | 9 | SF | | 2 | E | | 22 | | |
| | KHAR | 11 | 0817 | 0819 | 0828 | S19 | E75 | 5533 | 06 | 17.1 | 11 | SF | | 2 | P | 0818 | 100 | | |
| 0338 | KHAR | 11 | 0827 | 0827 | 0836 | S19 | W16 | 5521 | 06 | 10.1 | 9 | SF | | 2 | V | 0827 | | | E |
| 0339 | | 11 | 09023 | 09111 | 0934 | S18 | E72 | 5533 | 06 | 16.8 | 32 | 1N | M 1.5 | | | | 54 | | |
| | SVTO | 11 | 0902 | 0911 | 0932 | S18 | E72 | 5533 | 06 | 16.8 | 30 | SF | M 1.5 | 2 | E | | 54 | | |
| | KHAR | 11 | 0905 | 0912 | 0937 | S18 | E72 | 5533 | 06 | 16.9 | 32 | 1N | | 2 | V | 0912 | | | |
| 0340 | KHAR | 11 | 0929 | 0930 | 0940 | N22 | E60 | 5536 | 06 | 16.0 | 11 | SF | | 2 | V | 0930 | | | |
| 0341 | SVTO | 11 | 1039 | 1039 | 1044D | S18 | E74 | 5533 | 06 | 17.1 | 5D | SF | | 2 | E | | 20 | | |
| 0342 | SVTO | 11 | 1056 | 1057 | 1108 | S18 | E73 | 5533 | 06 | 17.0 | 12 | SF | | 2 | E | | 29 | | |
| 0343 | | 11 | 1144 | 1146 | 1204 | S19 | E71 | 5533 | 06 | 16.9 | 20 | SF | | | | | 36 | | |
| | SVTO | 11 | 1144 | 1146 | 1204 | S18 | E71 | 5533 | 06 | 16.9 | 20 | SF | | 2 | E | | 34 | | |
| | RAMY | 11 | 1144 | 1146 | 1204D | S20 | E71 | 5533 | 06 | 16.9 | 20D | SF | | 3 | E | | 39 | | |
| 0344 | | 11 | 1150 | 11501 | 1206 | S11 | E41 | 5530 | 06 | 14.6 | 16 | SF | | | | | 26 | | |
| | RAMY | 11 | 1150 | 1150 | 1204D | S12 | E41 | 5530 | 06 | 14.6 | 14D | SF | | 3 | E | | 24 | | |
| | SVTO | 11 | 1150 | 1151 | 1206 | S10 | E41 | 5530 | 06 | 14.6 | 16 | SF | | 2 | E | | 28 | | |
| 0345 | SVTO | 11 | 1206 | 1208 | 1222 | S16 | E64 | 5533 | 06 | 16.3 | 16 | SF | C 4.3 | 2 | E | | 61 | | |
| 0346 | | 11 | 13421 | 13435 | 1412 | S18 | E69 | 5533 | 06 | 16.8 | 30 | SF | C 7.3 | | | | 64 | | F |
| | SVTO | 11 | 1342 | 1343 | 1421 | S16 | E70 | 5533 | 06 | 16.9 | 39 | SF | C 7.3 | 3 | E | | 38 | | F |
| | HOLL | 11 | 1343 | 1348 | 1402 | S19 | E68 | 5533 | 06 | 16.8 | 19 | SF | C 7.3 | 3 | E | | 82 | | |
| | RAMY | 11 | 1350E | 1350U | 1354D | S19 | E68 | 5533 | 06 | 16.8 | 4D | SF | C 7.3 | 1 | E | | 73 | | F |
| 0347 | SVTO | 11 | 1353 | 1356 | 1417 | N22 | E45 | 5528 | 06 | 15.0 | 24 | SF | | 3 | E | | 26 | | F |
| 0348 | | 11 | 14268 | 14381 | 1452 | S16 | E63 | 5533 | 06 | 16.4 | 26 | SN | | | | | 38 | | E |
| | HOLL | 11 | 1426 | 1439 | 1457 | S16 | E63 | 5533 | 06 | 16.4 | 31 | SN | | 3 | E | | 64 | | E |
| | SVTO | 11 | 1434 | 1438 | 1447 | S16 | E63 | 5533 | 06 | 16.4 | 13 | SF | | 3 | E | | 11 | | |
| 0349 | SVTO | 11 | 1530 | 1530 | 1538 | S20 | W20 | 5521 | 06 | 10.1 | 8 | SF | | 3 | E | | 13 | | F |
| 0350 | | 11 | 1533* | 1535* | 1558 | S19 | E66 | 5533 | 06 | 16.7 | 25 | SF | C 4.3 | | | | 53 | | H |
| | HOLL | 11 | 1533 | 1535 | 1544 | S20 | E63 | 5533 | 06 | 16.5 | 11 | SN | C 4.3 | 3 | E | | 68 | | H |
| | SVTO | 11 | 1533 | 1536 | 1555 | S18 | E62 | 5533 | 06 | 16.4 | 22 | 1F | C 4.3 | 3 | E | | 111 | | |
| | SVTO | 11 | 1556 | 1601 | 1606 | S18 | E69 | 5533 | 06 | 16.9 | 10 | SF | | 3 | E | | 20 | | |
| | HOLL | 11 | 1559 | 1600 | 1605 | S21 | E71 | 5533 | 06 | 17.1 | 6 | SF | | 3 | E | | 14 | | |
| 0351 | HOLL | 11 | 1641 | 1647 | 1701 | N15 | E28 | 5528 | 06 | 13.8 | 20 | SF | | 3 | E | | 12 | | |

22
Jun 89

H α SOLAR FLARES

JUNE 1989

| Grp # | Sta | Day | Start (UT) | Max (UT) | End (UT) | Lat | NOAA/ USAF CMD Region | CMP Mo Day | Dur (Min) | Imp Opt Xray | Obs See Type | Area Measurement | | | Remarks |
|-------|------|-----|------------|----------|----------|---------|-----------------------------|---------------|--------------|-----------------|-----------------|------------------|----------------------|---------------|---------|
| | | | | | | | | | | | | Time (UT) | Apparent (10-6 Disk) | Corr (Sq Deg) | |
| 0352 | HOLL | 11 | 1647 | 1651 | 1654 | S21 E70 | 5533 | 06 17.1 | 7 | SF | 3 E | | 23 | | |
| 0353 | HOLL | 11 | 1706 | 1712 | 1731 | N10 E63 | 5534 | 06 16.4 | 25 | SF | 3 E | | 20 | | |
| 0354 | | 11 | 17294 | 1733 | 1742 | S18 E67 | 5533 | 06 16.8 | 13 | SF | | | 34 | | F |
| | HOLL | 11 | 1729 | 1733 | 1745 | S20 E68 | 5533 | 06 16.9 | 16 | SF | 3 E | | 45 | | |
| | SVTO | 11 | 1731E | 1731U | 1737 | S18 E70 | 5533 | 06 17.1 | 60 | SF | 2 E | | 23 | | |
| | RAMY | 11 | 1733E | 1733 | 1740 | S20 E68 | 5533 | 06 16.9 | 70 | SF | 2 E | | 30 | | F |
| | PALE | 11 | 1733 | 1733 | 1746 | S16 E61 | 5533 | 06 16.3 | 13 | SF | 3 E | | 39 | | |
| 0355 | HOLL | 11 | 1754 | 1754 | 1803 | N22 E41 | 5528 | 06 14.9 | 9 | SF | 3 E | | 13 | | |
| 0356 | | 11 | 18533 | 18563 | 1918 | S18 E63 | 5533 | 06 16.6 | 25 | SN C 9.4 | | | 34 | | F |
| | HOLL | 11 | 1853 | 1856 | 1918 | S20 E66 | 5533 | 06 16.8 | 25 | SN C 9.4 | 3 E | | 40 | | |
| | PALE | 11 | 1856 | 1859 | 1918 | S16 E60 | 5533 | 06 16.3 | 22 | SF | 3 E | | 27 | | F |
| 0357 | HOLL | 11 | 1941 | 1942 | 1955 | N23 E46 | 5528 | 06 15.4 | 14 | SF | 3 E | | 22 | | |
| 0358 | HOLL | 11 | 2110 | 2110 | 2123 | S18 W27 | 5521 | 06 9.8 | 13 | SF | 3 E | | 11 | | |
| 0359 | PALE | 11 | 2110 | 2118 | 2122 | S14 W32 | 5532 | 06 9.5 | 12 | SF | 3 E | | 21 | | |
| 0360 | | 11 | 2158 | 2159 | 2208 | S10 E40 | 5530 | 06 14.9 | 10 | SF | | | 88 | 1.8 | EIJT |
| | VORO | 11 | 2157E | 2159 | 2211 | S09 E39 | 5530 | 06 14.8 | 140 | SF | 2 C | 2159 | 134 | 1.8 | EIJT |
| | HOLL | 11 | 2158 | 2159 | 2206 | S10 E40 | 5530 | 06 14.9 | 8 | SF | 3 E | | 43 | | |
| 0361 | HOLL | 11 | 2216 | 2219 | 2251 | N20 E39 | 5528 | 06 14.9 | 35 | SF | 3 E | | 19 | | |
| 0362 | VORO | 11 | 2225E | | 2234 | S20 E65 | 5533 | 06 16.9 | 90 | SF | 2 C | 2225 | 45 | | DIJT |
| 0363 | | 11 | 22521 | 2254 | 2258 | S20 E61 | 5533 | 06 16.6 | 6 | SF C 4.0 | | | 26 | | DIJT |
| | VORO | 11 | 2252 | 2254 | 2259 | S20 E65 | 5533 | 06 16.9 | 7 | SF | 2 C | 2254 | 36 | | DIJT |
| | HOLL | 11 | 2253 | 2254 | 2257 | S19 E57 | 5533 | 06 16.3 | 4 | SF C 4.0 | 3 E | | 17 | | |
| 0364 | | 11 | 23164 | 23192 | 2336 | S16 E57 | 5533 | 06 16.3 | 20 | SN C 5.8 | | | 54 | | E |
| | HOLL | 11 | 2316 | 2319 | 2333 | S17 E56 | 5533 | 06 16.2 | 17 | SN C 5.8 | 3 E | | 52 | | E |
| | PALE | 11 | 2320 | 2321 | 2340 | S16 E58 | 5533 | 06 16.4 | 20 | SN C 5.8 | 3 E | | 56 | | |
| 0365 | | 11 | 2334 | 2337 | 2344 | S21 E68 | 5533 | 06 17.2 | 10 | SN | | | 52 | | DIJT |
| | PURP | 11 | 2326E | 2330U | 2344 | S22 E71 | 5533 | 06 17.4 | 180 | SN | | C 2330 | 68 | | D |
| | VORO | 11 | 2334 | 2337 | 2344 | S20 E65 | 5533 | 06 16.9 | 10 | SF | 2 C | 2337 | 36 | | DIJT |
| 0366 | HOLL | 11 | 2348 | 2348 | 2404 | S20 W12 | 5524 | 06 11.1 | 16 | SF | 3 E | | 11 | | |
| 0367 | | 11 | 23591 | 24013 | 2408 | S21 E67 | 5533 | 06 17.1 | 9 | SN | | | 24 | | DIJT |
| | HOLL | 11 | 2359 | 2401 | 2407 | S22 E66 | 5533 | 06 17.1 | 8 | SF | 3 E | | 16 | | |
| | VORO | 11 | 2359 | 2402 | 2409 | S20 E65 | 5533 | 06 17.0 | 10 | SF | 2 C | 2402 | 27 | | DIJT |
| | PURP | 12 | 0000 | 0004 | 0007 | S22 E71 | 5533 | 06 17.4 | 7 | SB | | C 0004 | 30 | | D |
| 0368 | | 12 | 00098 | 00183 | 0036 | N23 E44 | 5528 | 06 15.4 | 27 | SF | | | 42 | 0.7 | DIJT |
| | VORO | 12 | 0009 | 0018 | 0036 | N24 E43 | 5528 | 06 15.3 | 27 | SF | 2 C | 0018 | 63 | 0.8 | DIJT |
| | PURP | 12 | 0013E | 0017U | 0017D | N24 E45 | 5528 | 06 15.5 | 40 | SN | | C 0017 | 35 | 0.6 | D |
| | PALE | 12 | 0017 | 0021 | 0037 | N21 E44 | 5528 | 06 15.4 | 20 | SF | 3 E | | 28 | | |
| 0369 | | 12 | 0024 | 00278 | 0044 | S20 E64 | 5533 | 06 16.9 | 20 | SF | | | 37 | | DIJT |
| | VORO | 12 | 0024 | 0027 | 0045 | S20 E65 | 5533 | 06 17.0 | 21 | SF | 2 C | 0034 | 27 | | DIJT |
| | HOLL | 12 | 0024 | 0035 | 0049 | S19 E59 | 5533 | 06 16.5 | 25 | SF | 3 E | | 37 | | |
| | YUNN | 12 | 0036E | 0036U | 0038 | S22 E67 | 5533 | 06 17.2 | 20 | SN | | P 0036 | 48 | | D |
| 0370 | | 12 | 00401 | 00466 | 0110 | S16 W40 | 5532 | 06 9.0 | 30 | SN | | | 34 | 0.4 | DIJ |
| | YUNN | 12 | 0040 | 0046 | 0110 | S15 W40 | 5532 | 06 9.0 | 30 | SN | | C | 32 | 0.4 | D |
| | VORO | 12 | 0041 | 0052 | 0111 | S16 W41 | 5532 | 06 8.9 | 30 | SF | 2 C | 0051 | 36 | 0.5 | DIJ |
| 0371 | | 12 | 0049* | 01055 | 0120 | N21 E42 | 5528 | 06 15.2 | 31 | SN | | | 59 | 1.0 | EFIJT |
| | URUM | 12 | 0049 | 0105 | 0111 | N20 E40 | 5528 | 06 15.1 | 22 | SN | | C | 32 | 0.5 | E |
| | YUNN | 12 | 0052 | 0107U | 0113 | N21 E43 | 5528 | 06 15.3 | 21 | SN | | P 0107 | 64 | 1.0 | E |
| | VORO | 12 | 0101 | 0107 | 0115 | N22 E40 | 5528 | 06 15.1 | 14 | SF | 2 C | 0107 | 90 | 1.3 | EIJT |
| | PALE | 12 | 0109 | 0110 | 0140 | N19 E41 | 5528 | 06 15.2 | 31 | SF | 3 E | | 33 | | F |
| | PURP | 12 | 0111E | 0111U | 0111D | N21 E44 | 5528 | 06 15.4 | 310 | SB | | P 0111 | 76 | 1.2 | E |

H α SOLAR FLARES

23
Jun 89

JUNE 1989

| Grp # | Sta | Start Day | Start (UT) | Max (UT) | End (UT) | NOAA/USAF | | CMP Mo | Dur (Min) | Imp Opt | Xray | Obs See | Type | Time (UT) | Area Measurement | | Remarks |
|-------|------|-----------|------------|----------|----------|-----------------|---------|--------|-----------|---------|----------|---------|------|-----------|----------------------------------|---------------|---------|
| | | | | | | Region | Lat CMD | | | | | | | | Apparent (10 ⁻⁶ Disk) | Corr (Sq Deg) | |
| 0372 | | 12 | 0105 | 0108 | 0116 | N13 W16 | 5526 | 06 | 10.8 | 11 | SF | | | | 19 | | |
| | HOLL | 12 | 0105 | 0108 | 0112 | N13 W16 | 5526 | 06 | 10.8 | 7 | SF | 3 | E | | 19 | | |
| | HOLL | 12 | 0105 | 0108 | 0121 | N13 W16 | 5526 | 06 | 10.8 | 16 | SF | 3 | E | | 19 | | |
| 0373 | | 12 | 01472 | 0151* | 0218 | N20 E38 | 5528 | 06 | 15.0 | 31 | SN | | | | 77 | 1.4 | DEFIJT |
| | MITK | 12 | 0147 | 0152 | 0223 | N20 E37 | 5528 | 06 | 14.9 | 36 | 1N | | C | 0152 | 190 | 2.6 | E |
| | VORO | 12 | 0148E | 0151 | 0159D | N21 E36 | 5528 | 06 | 14.8 | 11D | SF | 2 | C | 0151 | 81 | 1.1 | DIJT |
| | HOLL | 12 | 0149E | 0151U | 0204D | N19 E38 | 5528 | 06 | 15.0 | 15D | SN | 2 | E | | 47 | | E |
| | PALE | 12 | 0149 | 0155 | 0225 | N19 E37 | 5528 | 06 | 14.9 | 36 | SF | 3 | E | | 21 | | F |
| | PURP | 12 | 0149 | 0201 | 0210 | N20 E41 | 5528 | 06 | 15.2 | 21 | SN | | C | 0204 | 74 | 1.1 | E |
| | YUNN | 12 | 0154E | 0154U | 0215 | N20 E38 | 5528 | 06 | 15.0 | 21D | SN | | P | 0154 | 48 | 0.7 | |
| 0374 | | 12 | 0141 | 0144 | 0200 | S22 E64 | 5533 | 06 | 17.0 | 19 | SN | | | | 28 | | D |
| | PALE | 12 | 0141 | 0144 | 0159 | S23 E64 | 5533 | 06 | 17.0 | 18 | SF | 3 | E | | 25 | | |
| | YUNN | 12 | 0154E | 0154U | 0200 | S22 E65 | 5533 | 06 | 17.1 | 6D | SN | | P | 0154 | 32 | | D |
| 0375 | | 12 | 02163 | 0219 | 0240 | S21 E64 | 5533 | 06 | 17.0 | 24 | 1N M 1.2 | | | | 124 | 2.6 | E |
| | YUNN | 12 | 0216 | 0219 | 0222D | S20 E66 | 5533 | 06 | 17.1 | 6D | 1N | | P | | 177 | | E |
| | MITK | 12 | 0216 | 0219 | 0243 | S21 E64 | 5533 | 06 | 17.0 | 27 | 1N | | C | 0219 | 110 | 2.6 | E |
| | PALE | 12 | 0219 | 0219 | 0236 | S22 E61 | 5533 | 06 | 16.8 | 17 | SF M 1.2 | 3 | E | | 86 | | |
| 0376 | YUNN | 12 | 0216 | 0219 | 0222D | S16 W31 | 5521 | 06 | 9.7 | 6D | SN | | P | | 48 | 0.6 | |
| 0377 | | 12 | 0620E | 0620U | 0632 | N24 E40 | 5528 | 06 | 15.3 | 12D | SN | | | | 32 | 0.5 | EF |
| | ISTA | 12 | 0620E | | 0624 | N24 E41 | 5528 | 06 | 15.4 | 4D | SN | | V | | | | F |
| | YUNN | 12 | 0620E | 0620U | 0640 | N23 E40 | 5528 | 06 | 15.3 | 20D | SN | | P | 0620 | 32 | 0.5 | E |
| 0378 | ISTA | 12 | 0635 | | 0646 | S16 W41 | 5521 | 06 | 9.2 | 11 | SF | | V | | | | D |
| 0379 | | 12 | 06387 | 06482 | 0658 | S19 E60 | 5533 | 06 | 16.8 | 20 | SN | | | | 34 | | EF |
| | ISTA | 12 | 0638 | | 0700 | S19 E61 | 5533 | 06 | 16.9 | 22 | 1B | | V | | | | F |
| | YUNN | 12 | 0642 | 0650 | 0650D | S20 E65 | 5533 | 06 | 17.2 | 8D | SN | | P | | 32 | | E |
| | SVTO | 12 | 0645 | 0648 | 0656 | S19 E54 | 5533 | 06 | 16.4 | 11 | SF | 3 | E | | 37 | | F |
| 0380 | | 12 | 0717 | 0718 | 0736 | N24 E39 | 5528 | 06 | 15.3 | 19 | 1N | | | | 17 | | EF |
| | ISTA | 12 | 0717 | | 0733 | N24 E41 | 5528 | 06 | 15.5 | 16 | 1B | | V | | | | E |
| | SVTO | 12 | 0717 | 0718 | 0739 | N23 E37 | 5528 | 06 | 15.1 | 22 | SF | 3 | E | | 17 | | F |
| 0381 | | 12 | 0820* | 0826* | 0909 | S20 E60 | 5533 | 06 | 16.9 | 49 | SN C 4.5 | | | | 42 | | DFK |
| | SVTO | 12 | 0820 | 0826 | 0909 | S19 E61 | 5533 | 06 | 17.0 | 49 | SN | | E | | 32 | | K |
| | SVTO | 12 | 0820 | 0858 | 0909 | S19 E61 | 5533 | 06 | 17.0 | 49 | SF C 4.5 | 3 | E | | 53 | | F |
| | HURB | 12 | 0853 | 0856 | 0909 | S20 E60 | 5533 | 06 | 16.9 | 16 | SF | | | | | | D |
| | ISTA | 12 | 0857E | | 0908 | S20 E60 | 5533 | 06 | 17.0 | 11D | 1B | | V | | | | F |
| 0382 | | 12 | 08232 | 08263 | 0842 | N21 E32 | 5528 | 06 | 14.8 | 19 | SN | | | | 45 | 1.0 | EF |
| | URUM | 12 | 0823 | 0826 | 0841 | N20 E32 | 5528 | 06 | 14.8 | 18 | SN | | C | | 80 | 1.0 | E |
| | SVTO | 12 | 0825 | 0829 | 0840 | N22 E30 | 5528 | 06 | 14.6 | 15 | SF | 3 | E | | 10 | | F |
| | ISTA | 12 | 0826E | | 0844 | N20 E34 | 5528 | 06 | 14.9 | 18D | 1N | | V | | | | E |
| 0383 | SVTO | 12 | 0923 | 0923 | 0926 | S20 W18 | 5524 | 06 | 11.0 | 3 | SF | 3 | E | | 16 | | |
| 0384 | SVTO | 12 | 0929 | 0933 | 0939 | S20 E59 | 5533 | 06 | 16.9 | 10 | SF | 3 | E | | 16 | | |
| 0385 | | 12 | 10473 | 10503 | 1125 | S18 E59 | 5533 | 06 | 16.9 | 38 | SF C 6.4 | | | | 46 | 0.6 | EK |
| | URUM | 12 | 1047 | 1051 | 1105 | S18 E56 | 5533 | 06 | 16.7 | 18 | SF | | C | | 32 | 0.6 | E |
| | HURB | 12 | 1050 | 1050 | 1152 | S19 E61 | 5533 | 06 | 17.1 | 62 | SF | | | | | | EK |
| | SVTO | 12 | 1050 | 1053 | 1119 | S18 E59 | 5533 | 06 | 16.9 | 29 | SF C 6.4 | 2 | E | | 59 | | |
| 0386 | URUM | 12 | 1157 | 1159 | 1207 | N21 E42 | 5536 | 06 | 15.7 | 10 | SF | | C | | 32 | 0.5 | D |
| | | 12 | 1220 | | 1224 | No Flare Patrol | | | | | | | | | | | |
| 0387 | | 12 | 1242 | 1305* | 1339 | S16 E51 | 5533 | 06 | 16.4 | 57 | SN C 7.6 | | | | 80 | | EFK |
| | HOLL | 12 | 1242 | 1305 | 1339 | S16 E51 | 5533 | 06 | 16.4 | 57 | SN C 7.6 | 3 | E | | 93 | | FE |
| | HOLL | 12 | 1242 | 1320 | 1339 | S16 E51 | 5533 | 06 | 16.4 | 57 | SN | | E | | 67 | | K |
| 0388 | KANZ | 12 | 1312E | 1321 | 1323D | S20 E59 | 5533 | 06 | 17.1 | 11D | SN | | C | | | | |
| 0389 | HOLL | 12 | 1450 | 1450 | 1458 | S21 E57 | 5533 | 06 | 17.0 | 8 | SF | 3 | E | | 30 | | |

24
Jun 89

H α SOLAR FLARES

JUNE 1989

| Grp # | Sta | Day | Start (UT) | Max (UT) | End (UT) | Lat | CMD | NOAA/ USAF Region | CMP Mo | Dur Day | Imp (Min) | Opt | Xray | Obs See | Type | Area Measurement | | | Remarks | |
|-------|------|-----|------------|----------|----------|-----|-----|-------------------------|-----------|------------|--------------|-----|-------|------------|------|------------------|----------------------|---------------|---------|-----|
| | | | | | | | | | | | | | | | | Time (UT) | Apparent (10-6 Disk) | Corr (Sq Deg) | | |
| 0390 | HOLL | 12 | 1456 | 1501 | 1536 | N15 | W42 | 5531 | 06 | 9.4 | 40 | SF | | 3 | E | | 48 | | | |
| 0391 | | 12 | 1555 | 1555 | 1602 | N22 | E31 | 5528 | 06 | 15.0 | 7 | SF | C 3.1 | | | | 18 | | | |
| | SVTO | 12 | 1555 | 1555 | 1600 | N19 | E29 | 5528 | 06 | 14.9 | 5 | SF | | 2 | E | | 13 | | | |
| | HOLL | 12 | 1555 | 1555 | 1603 | N24 | E33 | 5528 | 06 | 15.2 | 8 | SF | C 3.1 | 3 | E | | 24 | | | |
| 0392 | | 12 | 1600 | 1606* | 1632 | S21 | E57 | 5533 | 06 | 17.0 | 32 | SF | | | | | 13 | | | K |
| | HOLL | 12 | 1600 | 1606 | 1632 | S21 | E57 | 5533 | 06 | 17.0 | 32 | SF | | | E | | 12 | | | K |
| | HOLL | 12 | 1600 | 1620 | 1632 | S21 | E57 | 5533 | 06 | 17.0 | 32 | SF | | 3 | E | | 14 | | | |
| 0393 | | 12 | 1656 | 1701* | 1732 | S19 | E54 | 5533 | 06 | 16.8 | 36 | 1F | C 7.0 | | | | 54 | | | FKU |
| | HOLL | 12 | 1656 | 1701 | 1732 | S19 | E55 | 5533 | 06 | 16.9 | 36 | 1N | C 7.0 | 3 | E | | 100 | | | UF |
| | HOLL | 12 | 1656 | 1720 | 1732 | S19 | E55 | 5533 | 06 | 16.9 | 36 | 1F | | | E | | 22 | | | K |
| | SVTO | 12 | 1702E | 1704U | 1732D | S19 | E53 | 5533 | 06 | 16.7 | 30D | SF | | 2 | E | | 40 | | | |
| 0394 | HOLL | 12 | 1801 | 1802 | 1809 | N15 | W43 | 5531 | 06 | 9.5 | 8 | SF | | 3 | E | | 27 | | | |
| 0395 | | 12 | 1853 | 1853 | 1903 | N20 | E30 | 5528 | 06 | 15.1 | 10 | SF | | | | | 15 | | | |
| | HOLL | 12 | 1853 | 1853 | 1903 | N20 | E31 | 5528 | 06 | 15.1 | 10 | SF | | 3 | E | | 19 | | | |
| | PALE | 12 | 1853 | 1856 | 1903 | N21 | E29 | 5528 | 06 | 15.0 | 10 | SF | | 3 | E | | 11 | | | |
| 0396 | HOLL | 12 | 1902 | 1906 | 1927 | S16 | E47 | 5533 | 06 | 16.3 | 25 | SF | C 4.4 | 3 | E | | 54 | | | |
| 0397 | PALE | 12 | 1902 | 1907 | 1923 | S23 | E54 | 5533 | 06 | 16.9 | 21 | SF | | 3 | E | | 59 | | | F |
| 0398 | | 12 | 1908 | 1911 | 1928 | S15 | W47 | 5521 | 06 | 9.2 | 20 | SF | | | | | 36 | | | FH |
| | HOLL | 12 | 1908 | 1912 | 1931 | S16 | W47 | 5521 | 06 | 9.2 | 23 | SF | | 3 | E | | 50 | | | |
| | PALE | 12 | 1910 | 1911 | 1925 | S14 | W47 | 5521 | 06 | 9.2 | 15 | SF | | 3 | E | | 23 | | | FH |
| 0399 | | 12 | 1938 | 1939 | 1944 | N20 | E30 | 5528 | 06 | 15.1 | 6 | SN | C 3.4 | | | | 42 | | | F |
| | PALE | 12 | 1938 | 1939 | 1943 | N20 | E30 | 5528 | 06 | 15.1 | 5 | SF | C 3.4 | 3 | E | | 38 | | | F |
| | HOLL | 12 | 1938 | 1939 | 1944 | N20 | E29 | 5528 | 06 | 15.0 | 6 | SN | C 3.4 | 3 | E | | 45 | | | |
| 0400 | | 12 | 2014 | 2021 | 2030 | N16 | W46 | 5531 | 06 | 9.3 | 16 | SF | | | | | 22 | | | |
| | HOLL | 12 | 2014 | 2022 | 2032 | N15 | W45 | 5531 | 06 | 9.4 | 18 | SF | | 3 | E | | 28 | | | |
| | PALE | 12 | 2018 | 2021 | 2029 | N17 | W46 | 5531 | 06 | 9.3 | 11 | SF | | 3 | E | | 15 | | | |
| 0401 | | 12 | 2101 | 2108 | 2124 | N18 | E25 | 5528 | 06 | 14.8 | 23 | SF | C 4.0 | | | | 66 | | | F |
| | HOLL | 12 | 2101 | 2108 | 2123 | N19 | E25 | 5528 | 06 | 14.8 | 22 | SF | C 4.0 | 3 | E | | 74 | | | |
| | PALE | 12 | 2101 | 2110 | 2124 | N18 | E25 | 5528 | 06 | 14.8 | 23 | SF | C 4.0 | 3 | E | | 58 | | | F |
| 0402 | HOLL | 12 | 2110 | 2110U | 2120 | S21 | E54 | 5533 | 06 | 17.0 | 10 | SF | | 3 | E | | 21 | | | |
| 0403 | PALE | 12 | 2134 | 2135 | 2159 | N21 | E28 | 5528 | 06 | 15.0 | 25 | SF | | 3 | E | | 57 | | | F |
| 0404 | | 12 | 2143 | 2151 | 2229 | S20 | E50 | 5533 | 06 | 16.7 | 46 | SN | C 4.0 | | | | 88 | | | EF |
| | PALE | 12 | 2143 | 2151 | 2229 | S20 | E46 | 5533 | 06 | 16.4 | 46 | SF | | 3 | E | | 76 | | | F |
| | HOLL | 12 | 2149 | 2200 | 2229 | S20 | E53 | 5533 | 06 | 17.0 | 40 | SN | C 4.0 | 3 | E | | 99 | | | FE |
| 0405 | PALE | 12 | 2208 | 2214 | 2222 | N18 | W50 | 5531 | 06 | 9.1 | 14 | SF | | 3 | E | | 15 | | | |
| 0406 | HOLL | 12 | 2219 | 2219 | 2224 | N15 | E21 | 5528 | 06 | 14.5 | 5 | SF | | 3 | E | | 18 | | | |
| 0407 | HOLL | 12 | 2345 | 2345 | 2352 | N19 | E26 | 5528 | 06 | 15.0 | 7 | SF | | 3 | E | | 11 | | | |
| 0408 | | 13 | 0025 | 0027* | 0038 | N21 | E25 | 5528 | 06 | 14.9 | 13 | SN | | | | | 56 | 1.2 | | E |
| | HOLL | 13 | 0025 | 0027 | 0034 | N21 | E25 | 5528 | 06 | 14.9 | 9 | SF | | 3 | E | | 16 | | | |
| | URUM | 13 | 0026 | 0039 | 0043 | N21 | E25 | 5528 | 06 | 14.9 | 17 | SN | | | C | | 96 | 1.2 | | E |
| 0409 | YUNN | 13 | 0050 | 0052 | 0101 | N21 | E30 | 5528 | 06 | 15.3 | 11 | SN | | | C | | 40 | 0.5 | | E |
| 0410 | | 13 | 0201 | 0210 | 0228 | N20 | E24 | 5528 | 06 | 14.9 | 27 | 1N | C 4.8 | | | | 128 | 2.6 | | EF |
| | LEAR | 13 | 0201 | 0211 | 0224 | N20 | E22 | 5528 | 06 | 14.8 | 23 | SF | C 4.8 | 3 | E | | 63 | | | F |
| | URUM | 13 | 0204 | 0210 | 0227 | N21 | E23 | 5528 | 06 | 14.8 | 23 | 1N | | | C | | 177 | 2.1 | | E |
| | YUNN | 13 | 0205 | 0211U | 0233 | N21 | E25 | 5528 | 06 | 15.0 | 28 | 1B | | | P | 0211 | 257 | 3.1 | | F |
| | PALE | 13 | 0219E | 0219U | 0222D | N20 | E27 | 5528 | 06 | 15.2 | 3D | SF | | 3 | E | | 13 | | | |
| 0411 | | 13 | 0227E | 0234U | 0256 | S21 | E50 | 5533 | 06 | 16.9 | 29D | 1N | | | | | 72 | 2.3 | | EF |
| | YUNN | 13 | 0227E | 0234U | 0300 | S20 | E51 | 5533 | 06 | 17.0 | 33D | 1B | | | P | 0234 | 129 | 2.3 | | E |
| | LEAR | 13 | 0235E | | 0252 | S22 | E49 | 5533 | 06 | 16.9 | 17D | SF | | 3 | E | | 16 | | | F |

H α SOLAR FLARES

25
Jun 89

JUNE 1989

| Grp # | 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 |
|-------|------|-----|------------|----------|----------|-----------------|---------|--------|-----------|---------|------|---------|------|-----------|----------------------|---------------|---------|
| | | | | | | Region | Lat CMD | | | | | | | | Apparent (10-6 Disk) | Corr (Sq Deg) | |
| 0412 | LEAR | 13 | 0315 | 0316 | 0320 | S20 E47 | 5533 | 06 | 16.7 | 5 | SF | 3 | E | | 21 | | |
| 0413 | LEAR | 13 | 0617 | 0619 | 0639 | N16 W54 | 5531 | 06 | 9.2 | 22 | SF | 3 | E | | 36 | | F |
| 0414 | HTPR | 13 | 0625E | | 0643D | N19 E20 | 5528 | 06 | 14.8 | 18D | SF | | | 0630 | 40 | 0.4 | E |
| 0415 | HTPR | 13 | 0625E | | 0643D | S15 W55 | 5532 | 06 | 9.1 | 18D | SN | | | 0625 | 30 | 0.5 | |
| 0416 | | 13 | 06506 | 06536 | 0659 | S20 W34 | 5524 | 06 | 10.7 | 9 | SN | | | | 68 | 0.8 | D |
| | YUNN | 13 | 0650 | 0653 | 0659 | S19 W34 | 5524 | 06 | 10.7 | 9 | SN | | P | | 48 | 0.6 | |
| | ABST | 13 | 0656 | 0659 | 0702D | S21 W34 | 5524 | 06 | 10.7 | 6D | SF | | P | 0659 | 87 | 1.1 | D |
| 0417 | | 13 | 06521 | 06545 | 0702 | S18 W58 | 5521 | 06 | 8.9 | 10 | SN | | | | 60 | 1.2 | D |
| | YUNN | 13 | 0652 | 0659 | 0705 | S16 W59 | 5521 | 06 | 8.8 | 13 | SN | | C | | 32 | 0.7 | D |
| | ABST | 13 | 0653 | 0654 | 0700 | S20 W58 | 5521 | 06 | 8.8 | 7 | SF | | C | 0654 | 87 | 1.6 | D |
| 0418 | | 13 | 0705 | 0707* | 0726 | N17 W57 | 5531 | 06 | 9.0 | 21 | SN | | | | 36 | 0.7 | D |
| | URUM | 13 | 0705 | 0707 | 0721 | N17 W57 | 5531 | 06 | 9.0 | 16 | SN | | C | | 48 | 0.9 | D |
| | YUNN | 13 | 0705 | 0718 | 0730 | N17 W57 | 5531 | 06 | 9.0 | 25 | SN | | C | | 24 | 0.5 | D |
| 0419 | HTPR | 13 | 0735E | | 0806D | S15 W55 | 5532 | 06 | 9.1 | 31D | SN | | | 0735 | 40 | 0.5 | |
| 0420 | HTPR | 13 | 0749 | | 0752D | N18 E32 | 5536 | 06 | 15.8 | 3D | SN | | | 0752 | 120 | 1.3 | E |
| 0421 | | 13 | 08009 | 08113 | 0815 | N21 E21 | 5528 | 06 | 14.9 | 15 | SN | | | | 128 | 1.4 | DEHI |
| | YUNN | 13 | 0755E | 0755U | 0801 | N22 E22 | 5528 | 06 | 15.0 | 6D | SN | | P | 0755 | 48 | 0.6 | D |
| | HTPR | 13 | 0757E | | 0806D | N20 E20 | 5528 | 06 | 14.9 | 9D | SN | | | 0757 | 120 | 1.2 | EI |
| | URUM | 13 | 0800 | 0814 | 0821 | N21 E22 | 5528 | 06 | 15.0 | 21 | SN | | C | | 145 | 1.7 | E |
| | KHAR | 13 | 0809 | 0811 | 0822 | N20 E20 | 5528 | 06 | 14.9 | 13 | 1N | 2 | P | 0809 | 200 | 2.2 | H |
| 0422 | HTPR | 13 | 0829E | | 0911D | S15 W55 | 5532 | 06 | 9.2 | 42D | SN | | | 0902 | 50 | 0.6 | E |
| 0423 | KHAR | 13 | 0830 | 0832 | 0839 | N14 E33 | 5536 | 06 | 15.8 | 9 | SF | 2 | V | 0832 | | | DH |
| 0424 | HTPR | 13 | 0843 | 0847 | 0855 | N24 E27 | 5536A | 06 | 15.4 | 12 | SB | | | 0847 | 30 | 0.3 | E |
| | | 13 | 0922 | | 0924 | No Flare Patrol | | | | | | | | | | | |
| | | 13 | 0931 | | 0950 | No Flare Patrol | | | | | | | | | | | |
| 0425 | KHAR | 13 | 1017 | 1017 | 1037 | N14 E07 | 5528 | 06 | 13.9 | 20 | SF | 2 | V | 1017 | | | D |
| 0426 | KHAR | 13 | 1020 | | 1033 | S06 W73 | 5539 | 06 | 8.0 | 13 | SF | 2 | V | 1020 | | | D |
| 0427 | HTPR | 13 | 1031 | 1032 | 1044 | S18 E44 | 5533 | 06 | 16.8 | 13 | SN | | | 1032 | 20 | 0.3 | E |
| 0428 | | 13 | 1049* | 1108* | 1213 | N19 E29 | 5536 | 06 | 15.7 | 84 | 1N | | | | 304 | 5.2 | EFIKU |
| | SVTO | 13 | 1049 | 1108 | 1209 | N19 E28 | 5536 | 06 | 15.6 | 80 | 1N | | E | | 155 | | K |
| | SVTO | 13 | 1049 | 1117 | 1209 | N19 E28 | 5536 | 06 | 15.6 | 80 | 1N | 3 | E | | 146 | | UF |
| | HTPR | 13 | 1112 | 1123 | 1220 | N19 E30 | 5536 | 06 | 15.7 | 68 | 1B | | | 1123 | 350 | 3.5 | EIU |
| | URUM | 13 | 1115 | 1143 | 1204D | N18 E29 | 5536 | 06 | 15.7 | 49D | 2N | | C | | 563 | 7.0 | F |
| 0429 | | 13 | 11033 | 11063 | 1130 | S20 E44 | 5533 | 06 | 16.8 | 27 | 1B | | | | 138 | 2.0 | E |
| | HTPR | 13 | 1103 | 1106 | 1136 | S18 E44 | 5533 | 06 | 16.8 | 33 | 1B | | | 1106 | 180 | 2.5 | E |
| | URUM | 13 | 1106 | 1109 | 1124 | S21 E44 | 5533 | 06 | 16.8 | 18 | SN | | C | | 96 | 1.5 | E |
| 0430 | | 13 | 11291 | 11301 | 1133 | S20 W32 | 5524 | 06 | 11.0 | 4 | SF | | | | 17 | 0.2 | E |
| | HTPR | 13 | 1129 | 1130 | 1132 | S18 W31 | 5524 | 06 | 11.1 | 3 | SF | | | 1130 | 20 | 0.2 | E |
| | SVTO | 13 | 1130 | 1131 | 1134 | S21 W32 | 5524 | 06 | 11.0 | 4 | SF | 3 | E | | 14 | | |
| 0431 | | 13 | 11442 | 11453 | 1200 | S18 E35 | 5533 | 06 | 16.1 | 16 | SN | | | | 55 | 0.7 | E |
| | HTPR | 13 | 1144 | 1145 | 1203 | S17 E37 | 5533 | 06 | 16.3 | 19 | SF | | | 1145 | 30 | 0.4 | E |
| | URUM | 13 | 1146 | 1148 | 1156 | S18 E33 | 5533 | 06 | 16.0 | 10 | SN | | C | | 80 | 1.0 | E |
| 0432 | RAMY | 13 | 1222 | 1232 | 1314 | N20 E16 | 5528 | 06 | 14.7 | 52 | SF | 3 | E | | 27 | | F |
| 0433 | | 13 | 1224* | 1231* | 1328 | N17 E30 | 5536 | 06 | 15.8 | 64 | SF | | | | 115 | 3.3 | EFI |
| | RAMY | 13 | 1224 | 1231 | 1252 | N16 E29 | 5536 | 06 | 15.7 | 28 | SF | 3 | E | | 19 | | F |
| | HTPR | 13 | 1225 | 1235 | 1440 | N18 E31 | 5536 | 06 | 15.9 | 135 | 1N | | | 1235 | 300 | 3.3 | EI |
| | SVTO | 13 | 1243 | 1246 | 1251 | N18 E30 | 5536 | 06 | 15.8 | 8 | SF | 3 | E | | 27 | | |

26
Jun 89

H α SOLAR FLARES

JUNE 1989

| Grp # | Sta | Day | Start (UT) | Max (UT) | End (UT) | NOAA/USAF | | | CMP Mo | Dur (Min) | Imp Opt | Xray | Obs See | Type | Area Measurement | | | Remarks |
|-------|------|-----|------------|----------|----------|-----------|-----|--------|--------|-----------|---------|------|---------|------|------------------|----------------------------------|---------------|---------|
| | | | | | | Lat | Cmd | Region | | | | | | | Time (UT) | Apparent (10 ⁻⁶ Disk) | Corr (Sq Deg) | |
| 0434 | | 13 | 1234* | 1243* | 1300 | N14 | W57 | 5531 | 06 | 9.2 | 26 | SF | | | 22 | 0.7 | | |
| | HTPR | 13 | 1234 | 1243 | 1305 | N15 | W55 | 5531 | 06 | 9.3 | 31 | SF | | | 40 | 0.7 | | |
| | SVTO | 13 | 1243 | 1249 | 1252 | N14 | W56 | 5531 | 06 | 9.3 | 9 | SF | 3 | E | 13 | | | |
| | RAMY | 13 | 1257 | 1259 | 1304 | N14 | W59 | 5531 | 06 | 9.1 | 7 | SF | 3 | E | 14 | | | |
| 0435 | | 13 | 1244* | 1245* | 1308 | N22 | E18 | 5528 | 06 | 14.9 | 24 | SF | | | 17 | | | |
| | SVTO | 13 | 1244 | 1245 | 1252 | N23 | E20 | 5528 | 06 | 15.1 | 8 | SF | 3 | E | 18 | | | |
| | SVTO | 13 | 1256 | 1300 | 1307 | N23 | E19 | 5528 | 06 | 15.0 | 11 | SN | 3 | E | 24 | | | |
| | SVTO | 13 | 1300 | 1308 | 1316 | N22 | E17 | 5528 | 06 | 14.8 | 16 | SF | 3 | E | 13 | | | |
| | SVTO | 13 | 1308 | 1308 | 1316 | N22 | E17 | 5528 | 06 | 14.8 | 8 | SF | 3 | E | 13 | | | |
| 0436 | | 13 | 1259* | 1303* | 1325 | N17 | E30 | 5536 | 06 | 15.8 | 26 | SF | | | 40 | | | |
| | SVTO | 13 | 1259 | 1303 | 1307 | N17 | E30 | 5536 | 06 | 15.8 | 8 | SF | 3 | E | 25 | | | |
| | HOLL | 13 | 1311 | 1311 | 1336 | N16 | E30 | 5536 | 06 | 15.8 | 25 | SF | 3 | E | 36 | | | |
| | SVTO | 13 | 1321 | 1328 | 1331 | N18 | E29 | 5536 | 06 | 15.8 | 10 | SF | 3 | E | 59 | | | |
| 0437 | | 13 | 13214 | 13252 | 1346 | S19 | E42 | 5533 | 06 | 16.8 | 25 | SN | | | 56 | 0.9 | EF | |
| | SVTO | 13 | 1321 | 1325 | 1334 | S18 | E43 | 5533 | 06 | 16.8 | 13 | SN | 3 | E | 83 | | | |
| | HTPR | 13 | 1321 | 1325 | 1350 | S19 | E42 | 5533 | 06 | 16.8 | 29 | SB | | | 70 | 0.9 | E | |
| | RAMY | 13 | 1321 | 1325 | 1408 | S19 | E42 | 5533 | 06 | 16.8 | 47 | SF | 3 | E | 48 | | F | |
| | HOLL | 13 | 1325 | 1327 | 1333 | S19 | E42 | 5533 | 06 | 16.8 | 8 | SF | 3 | E | 21 | | F | |
| 0438 | RAMY | 13 | 1326 | 1327 | 1331 | N20 | E17 | 5528 | 06 | 14.9 | 5 | SF M | 1.3 | 3 | E | 12 | | F |
| 0439 | HTPR | 13 | 1351 | 1353 | 1405 | N25 | E22 | 5536A | 06 | 15.3 | 14 | SB | | | 1353 | 30 | 0.3 | |
| 0440 | | 13 | 14107 | 1418 | 1442 | N15 | W56 | 5531 | 06 | 9.3 | 32 | SF | | | 70 | 2.8 | EF | |
| | HTPR | 13 | 1410 | 1418 | 1500 | N15 | W56 | 5531 | 06 | 9.3 | 50 | 1N | | | 160 | 2.8 | E | |
| | RAMY | 13 | 1415 | 1418 | 1434 | N14 | W58 | 5531 | 06 | 9.2 | 19 | SF | 3 | E | 27 | | | |
| | HOLL | 13 | 1415 | 1418U | 1443 | N14 | W56 | 5531 | 06 | 9.4 | 28 | SF | 3 | E | 66 | | | |
| | RAMY | 13 | 1417 | 1418 | 1430 | N16 | W52 | 5531 | 06 | 9.6 | 13 | SF | 3 | E | 26 | | F | |
| 0441 | | 13 | 1423* | 1434* | 1512 | S20 | E43 | 5533 | 06 | 16.9 | 49 | SF | | | 45 | 0.9 | EFK | |
| | HTPR | 13 | 1423 | 1434 | 1520 | S20 | E42 | 5533 | 06 | 16.8 | 57 | SB | | | 70 | 0.9 | EF | |
| | HOLL | 13 | 1433 | 1435 | 1500 | S21 | E43 | 5533 | 06 | 16.9 | 27 | SF | 3 | E | 34 | | F | |
| | RAMY | 13 | 1433 | 1436 | 1456 | S22 | E43 | 5533 | 06 | 16.9 | 23 | SF | 3 | E | 32 | | | |
| | SVTO | 13 | 1441 | 1443 | 1523 | S19 | E43 | 5533 | 06 | 16.9 | 42 | SF | | | 50 | | K | |
| | SVTO | 13 | 1441 | 1450 | 1523 | S19 | E43 | 5533 | 06 | 16.9 | 42 | SF | 3 | E | 41 | | | |
| 0442 | HOLL | 13 | 1506 | 1507 | 1550 | N16 | E28 | 5536 | 06 | 15.7 | 44 | SF | 3 | E | 23 | | | |
| 0443 | | 13 | 15442 | 15462 | 1557 | S19 | E40 | 5533 | 06 | 16.7 | 13 | SF | | | 28 | | F | |
| | SVTO | 13 | 1544 | 1548 | 1603 | S18 | E42 | 5533 | 06 | 16.8 | 19 | SF | 3 | E | 39 | | | |
| | RAMY | 13 | 1545 | 1546 | 1557 | S20 | E36 | 5533 | 06 | 16.4 | 12 | SF | 3 | E | 32 | | F | |
| | HOLL | 13 | 1546 | 1546 | 1551 | S20 | E42 | 5533 | 06 | 16.9 | 5 | SF | 3 | E | 12 | | F | |
| 0444 | HOLL | 13 | 1600 | 1602 | 1606 | N18 | E14 | 5528 | 06 | 14.7 | 6 | SF | 3 | E | 20 | | F | |
| 0445 | PALE | 13 | 1715 | 1720 | 1747 | N15 | E26 | 5536 | 06 | 15.7 | 32 | SF | 3 | E | 35 | | F | |
| 0446 | HOLL | 13 | 1719 | 1720 | 1723 | N15 | W56 | 5531 | 06 | 9.5 | 4 | SF | 3 | E | 16 | | | |
| 0447 | PALE | 13 | 1720 | 1720 | 1725 | N19 | E15 | 5528 | 06 | 14.9 | 5 | SF | 3 | E | 13 | | | |
| 0448 | HOLL | 13 | 1808 | 1808 | 1821 | S25 | W58 | 5521 | 06 | 9.3 | 13 | SF | 3 | E | 11 | | | |
| 0449 | HOLL | 13 | 1818 | 1821 | 1825 | N16 | E26 | 5536 | 06 | 15.7 | 7 | SF | 3 | E | 12 | | | |
| 0450 | | 13 | 19375 | 1943 | 2016 | N19 | E14 | 5528 | 06 | 14.9 | 39 | SF C | 4.2 | | 38 | | EF | |
| | RAMY | 13 | 1937 | 1943 | 2025 | N19 | E14 | 5528 | 06 | 14.9 | 48 | SF C | 4.2 | 3 | E | 45 | | F |
| | HOLL | 13 | 1942 | 1943 | 2008 | N19 | E14 | 5528 | 06 | 14.9 | 26 | SF C | 7.0 | 4 | E | 31 | | FE |
| 0451 | HOLL | 13 | 2041 | 2041 | 2044 | S11 | E09 | 5530 | 06 | 14.5 | 3 | SF | 3 | E | 27 | | | |
| 0452 | | 13 | 20503 | 20526 | 2110 | N16 | W55 | 5531 | 06 | 9.7 | 20 | SF | | | 66 | | EF | |
| | HOLL | 13 | 2050 | 2052 | 2111 | N16 | W54 | 5531 | 06 | 9.8 | 21 | SF | 3 | E | 92 | | FE | |
| | RAMY | 13 | 2053 | 2058 | 2109 | N15 | W56 | 5531 | 06 | 9.6 | 16 | SF | 3 | E | 39 | | | |
| 0453 | PALE | 13 | 2319 | 2319 | 2328 | S21 | E37 | 5533 | 06 | 16.8 | 9 | SF C | 4.4 | 3 | E | 45 | | F |

H α SOLAR FLARES

27
Jun 89

JUNE 1989

| Grp # | Sta | Start Day | Max (UT) | End (UT) | Lat | CMD | NOAA/ USAF | | Dur (Min) | Imp Opt | Xray | Obs See | Type | Time (UT) | Area Measurement | | Remarks | | |
|-------|------|-----------|----------|----------|-------|-----------------|------------|--------|-----------|---------|------|---------|-------|-----------|----------------------|---------------|---------|------|---|
| | | | | | | | Region | Mo Day | | | | | | | Apparent (10-6 Disk) | Corr (Sq Deg) | | | |
| 0454 | PALE | 13 | 2349 | 2350 | N17 | E04 | 5528 | 06 | 14.3 | 8 | SF | 3 | E | | 20 | | | | |
| 0455 | LEAR | 14 | 0112 | 0113 | S20 | E31 | 5533 | 06 | 16.4 | 9 | SF | 3 | E | | 21 | | F | | |
| 0456 | LEAR | 14 | 0148 | 0152 | N15 | E23 | 5536 | 06 | 15.8 | 18 | SF | 3 | E | | 26 | | F | | |
| 0457 | | 14 | 0240* | 0240* | 0318 | N14 | E01 | 5528 | 06 | 14.2 | 38 | SF | | | 81 | 2.1 | EFJKW | | |
| | PALE | 14 | 0240 | 0240 | 0248 | N10 | E02 | | 06 | 14.3 | 8 | SF | 3 | E | 25 | | | | |
| | MITK | 14 | 0252 | 0258 | 0323 | N13 | W03 | | 06 | 13.9 | 31 | 1F | | C | 0258 | 200 | 2.1 | EJKW | |
| | PALE | 14 | 0255 | 0306 | 0324 | N13 | W03 | | 06 | 13.9 | 29 | 1F | 3 | E | 101 | | F | | |
| | LEAR | 14 | 0300E | 0300U | 0325 | N14 | W04 | | 06 | 13.8 | 25D | SF | 3 | E | 76 | | | | |
| | LEAR | 14 | 0303 | 0306 | 0323 | N17 | E06 | 5528 | 06 | 14.6 | 20 | SF | | E | 54 | | K | | |
| | LEAR | 14 | 0303 | 0318 | 0323 | N17 | E06 | 5528 | 06 | 14.6 | 20 | SF | 3 | E | 54 | | | | |
| | PALE | 14 | 0318 | 0318 | 0323 | N17 | E06 | 5528 | 06 | 14.6 | 5 | SF | 3 | E | 58 | | F | | |
| 0458 | PALE | 14 | 0318 | 0322 | 0326 | N15 | E22 | 5536 | 06 | 15.8 | 8 | SF | 3 | E | | 13 | | | |
| | | 14 | 0525 | | 0539 | No Flare Patrol | | | | | | | | | | | | | |
| 0459 | | 14 | 05482 | 05521 | 0614 | N24 | E20 | 5536A | 06 | 15.8 | 26 | 1N | | | 200 | 2.2 | EV | | |
| | MITK | 14 | 0548 | 0553 | 0613 | N22 | E19 | 5536A | 06 | 15.7 | 25 | SF | | C | 0553 | | E | | |
| | HTRP | 14 | 0550 | 0552 | 0615 | N25 | E20 | 5536A | 06 | 15.8 | 25 | 1B | | | 0552 | 200 | 2.2 | EV | |
| 0460 | | 14 | 06073 | 06093 | 0629 | S19 | E29 | 5533 | 06 | 16.5 | 22 | SB | | | 165 | 2.0 | DE | | |
| | HTRP | 14 | 0607 | 0609 | 0628 | S17 | E27 | 5533 | 06 | 16.3 | 21 | SB | | | 0609 | 150 | 1.7 | E | |
| | MITK | 14 | 0608 | 0609 | 0628 | S20 | E30 | 5533 | 06 | 16.5 | 20 | SB | | C | 0609 | | | E | |
| | BUCA | 14 | 0608 | 0610 | 0635 | S19 | E30 | 5533 | 06 | 16.5 | 27 | 1N | | C | 0610 | 215 | 2.7 | D | |
| | ABST | 14 | 0610 | 0612 | 0625 | S20 | E30 | 5533 | 06 | 16.5 | 15 | SN | | C | 0612 | 131 | 1.6 | D | |
| 0461 | HTRP | 14 | 0645 | | 0659D | S15 | W66 | 5532 | 06 | 9.3 | 14D | SF | | | 0649 | 40 | 0.9 | E | |
| 0462 | HTRP | 14 | 0656 | | 0659D | N17 | W08 | 5528 | 06 | 13.7 | 3D | SF | | | 0656 | 20 | 0.2 | | |
| 0463 | | 14 | 07232 | 07302 | 0750 | N16 | E04 | 5528 | 06 | 14.6 | 27 | 1N | C 7.7 | | 129 | 1.8 | EFT | | |
| | KAND | 14 | 0723 | 0730 | 0745 | N15 | E01 | 5528 | 06 | 14.4 | 22 | SB | | P | 0730 | 83 | 0.9 | ET | |
| | ISTA | 14 | 0724 | 0732 | 0746 | N20 | E09 | 5528 | 06 | 15.0 | 22 | 1B | | V | | | | E | |
| | BUCA | 14 | 0725 | 0731 | 0800 | N14 | E04 | 5528 | 06 | 14.6 | 35 | 1F | | C | 0731 | 258 | 2.7 | E | |
| | LEAR | 14 | 0730E | 0730U | 0749D | N15 | E01 | 5528 | 06 | 14.4 | 19D | SF | C 7.7 | 2 | E | 47 | | F | |
| 0464 | | 14 | 0800* | 0802* | 0816 | S20 | E29 | 5533 | 06 | 16.5 | 16 | SN | | | 108 | 1.3 | DTU | | |
| | KAND | 14 | 0800 | 0803 | 0821 | S20 | E28 | 5533 | 06 | 16.5 | 21 | SN | | P | 0803 | 104 | 1.2 | D | |
| | ISTA | 14 | 0801 | 0802 | 0812 | S19 | E31 | 5533 | 06 | 16.7 | 11 | SF | | V | | | | U | |
| | CATA | 14 | 0814 | 0814 | 0829D | S20 | E28 | 5533 | 06 | 16.5 | 15D | SB | | 2 | P | 0814 | 112 | 1.4 | T |
| 0465 | | 14 | 0835E | 0847 | 0914 | N16 | E03 | 5528 | 06 | 14.6 | 39D | SN | | | 70 | 0.8 | EFI | | |
| | HTRP | 14 | 0835E | | 0928 | N16 | E04 | 5528 | 06 | 14.7 | 53D | SF | | | 0838 | 60 | 0.6 | EI | |
| | URUM | 14 | 0846E | 0847 | 0901 | N17 | E02 | 5528 | 06 | 14.5 | 15D | SN | | C | | 80 | 0.9 | F | |
| 0466 | HTRP | 14 | 0858 | 0901 | 0906 | N25 | E11 | 5536A | 06 | 15.2 | 8 | SF | | | 0901 | 30 | 0.3 | E | |
| 0467 | KAND | 14 | 0900 | 0903 | 0910 | S18 | W74 | 5521 | 06 | 8.7 | 10 | SF | | P | 0903 | 42 | | D | |
| 0468 | HTRP | 14 | 0925 | 0934 | 0942 | S18 | E28 | 5533 | 06 | 16.5 | 17 | SB | | | 0934 | 80 | 0.9 | E | |
| 0469 | URUM | 14 | 0956 | 1001 | 1006 | N16 | W01 | 5528 | 06 | 14.3 | 10 | SN | | C | | 113 | 1.2 | D | |
| 0470 | HTRP | 14 | 0959 | 1002 | 1010 | S17 | W72 | 5521 | 06 | 8.9 | 11 | SN | | | 1002 | 20 | 0.5 | | |
| 0471 | | 14 | 1016* | 10454 | 1125 | N16 | W05 | 5528 | 06 | 14.0 | 69 | SN | | | 168 | 1.8 | EI | | |
| | URUM | 14 | 1016 | 1045 | 1050D | N16 | W02 | 5528 | 06 | 14.3 | 34D | SF | | C | | 161 | 1.7 | E | |
| | HTRP | 14 | 1034E | | 1127 | N17 | E02 | 5528 | 06 | 14.6 | 53D | SN | | | 1050 | 100 | 1.0 | EI | |
| | HTRP | 14 | 1041 | 1047 | 1120 | N17 | W08 | 5528 | 06 | 13.8 | 39 | SN | | | 1047 | 150 | 1.5 | EI | |
| | KAND | 14 | 1042 | 1049 | 1128 | N14 | W08 | 5528 | 06 | 13.8 | 46 | SN | | P | 1049 | 62 | 0.7 | E | |
| | CATA | 14 | 1048E | 1048 | 1057D | N14 | W08 | 5528 | 06 | 13.8 | 9D | 1B | | 1 | P | 1048 | 365 | 3.9 | |
| 0472 | HTRP | 14 | 1034E | | 1050D | S19 | W33 | 5524 | 06 | 11.9 | 16D | SF | | | 1034 | 100 | 1.1 | EI | |

28
Jun 89

H α SOLAR FLARES

JUNE 1989

| Grp # | Sta | Start Day | Max (UT) | End (UT) | Lat | CMD | NOAA/ USAF Region | CMP Mo | Dur (Min) | Imp Opt | Xray | Obs See | Type | Area Measurement | | | Remarks | | | |
|-------|------|-----------|----------|----------|-----------------|-----|-------------------|--------|-----------|---------|------|---------|------|------------------|----------------------|---------------|---------|-----|-----|-----|
| | | | | | | | | | | | | | | Time (UT) | Apparent (10-6 Disk) | Corr (Sq Deg) | | | | |
| 0473 | 14 | 11354 | 1140 | 1200 | N15 | W01 | 5528 | 06 | 14.4 | 25 | SN | C | 4.4 | | | 114 | 1.6 | EF | | |
| | HTPR | 14 | 1135 | 1146D | N17 | E01 | 5528 | 06 | 14.5 | 11D | SB | | | | | 1140 | 150 | 1.5 | EF | |
| | KAND | 14 | 1135 | 1140 | 1200 | N15 | W02 | 5528 | 06 | 14.3 | 25 | SB | | | P | 1140 | 166 | 1.7 | E | |
| | RAMY | 14 | 1139 | 1140 | 1156D | N14 | W02 | 5528 | 06 | 14.3 | 17D | SF | C | 4.4 | 3 | E | 26 | | F | |
| 0474 | 14 | 1218 | 1219 | 1259 | N17 | E02 | 5528 | 06 | 14.7 | 41 | SF | | | | | | 67 | 1.5 | EFI | |
| | HTPR | 14 | 1209E | 1235D | N18 | E03 | 5528 | 06 | 14.7 | 26D | SN | | | | | 1219 | 150 | 1.5 | EI | |
| | RAMY | 14 | 1218 | 1219 | 1259 | N16 | E01 | 5528 | 06 | 14.6 | 41 | SF | | | 3 | E | 17 | | F | |
| | HOLL | 14 | 1219E | 1221U | 1222D | N20 | E05 | 5528 | 06 | 14.9 | 3D | SF | | | 3 | E | 35 | | | |
| | KANZ | 14 | 1228E | 1234D | N14 | W01 | 5528 | 06 | 14.4 | 6D | SF | | | | V | | | | | |
| | 14 | 1251 | | 1256 | No Flare Patrol | | | | | | | | | | | | | | | |
| 0475 | RAMY | 14 | 1258 | 1258 | 1443D | S18 | E21 | 5533 | 06 | 16.1 | 105D | SF | | | 3 | E | | 61 | | F |
| 0476 | HOLL | 14 | 1316E | 1330U | 1334D | S17 | W73 | 5521 | 06 | 9.0 | 18D | SF | | | 2 | E | | 20 | | |
| | 14 | 1335 | | 1346 | No Flare Patrol | | | | | | | | | | | | | | | |
| 0477 | 14 | 1350 | 1355 | 1414 | S14 | W78 | 5521 | 06 | 8.7 | 24 | 1N | M | 2.7 | | | | | 156 | | E |
| | HOLL | 14 | 1350 | 1355 | 1413 | S16 | W75 | 5521 | 06 | 8.9 | 23 | 1N | M | 2.7 | 3 | E | | 174 | | E |
| | SVTO | 14 | 1354E | 1354U | 1414 | S13 | W82 | 5521 | 06 | 8.4 | 20D | 1N | M | 2.7 | 2 | E | | 139 | | |
| 0478 | HOLL | 14 | 1421 | 1421 | 1429 | S15 | W65 | 5521 | 06 | 9.7 | 8 | SF | | | 3 | E | | 20 | | |
| 0479 | HOLL | 14 | 1430 | 1431 | 1452 | S16 | W75 | 5521 | 06 | 8.9 | 22 | SF | | | 3 | E | | 29 | | |
| 0480 | 14 | 15473 | 15474 | 1600 | N17 | W02 | 5528 | 06 | 14.5 | 13 | SF | M | 1.0 | | | | | 22 | | F |
| | HOLL | 14 | 1547 | 1547 | 1559 | N17 | W01 | 5528 | 06 | 14.6 | 12 | SF | M | 1.0 | 3 | E | | 15 | | F |
| | RAMY | 14 | 1550 | 1551 | 1602 | N17 | W02 | 5528 | 06 | 14.5 | 12 | SF | | | 3 | E | | 29 | | F |
| 0481 | RAMY | 14 | 1629 | 1637 | 1704 | S18 | W80 | 5521 | 06 | 8.6 | 35 | SF | M | 1.6 | 3 | E | | 24 | | |
| 0482 | HOLL | 14 | 1638 | 1639 | 1647 | N16 | W66 | 5531 | 06 | 9.7 | 9 | SF | | | 4 | E | | 18 | | |
| 0483 | 14 | 16533 | 1657 | 1702 | N18 | W02 | 5528 | 06 | 14.5 | 9 | SF | | | | | | | 24 | | F |
| | PALE | 14 | 1653 | 1656U | 1714D | N21 | E00 | 5528 | 06 | 14.7 | 21D | SF | | | 3 | E | | 33 | | F |
| | RAMY | 14 | 1656 | 1657 | 1702 | N15 | W04 | 5528 | 06 | 14.4 | 6 | SF | | | 3 | E | | 15 | | F |
| 0484 | RAMY | 14 | 1738 | 1747 | 1756 | S17 | W71 | 5521 | 06 | 9.3 | 18 | SF | | | 3 | E | | 34 | | |
| 0485 | 14 | 17394 | 17431 | 1759 | S20 | E22 | 5533 | 06 | 16.4 | 20 | SN | | | | | | | 68 | | E |
| | PALE | 14 | 1739 | 1744 | 1751 | S19 | E21 | 5533 | 06 | 16.3 | 12 | SF | | | 3 | E | | 48 | | |
| | HOLL | 14 | 1739 | 1744 | 1815 | S19 | E23 | 5533 | 06 | 16.5 | 36 | SB | | | 3 | E | | 96 | | |
| | RAMY | 14 | 1743 | 1743 | 1752 | S21 | E23 | 5533 | 06 | 16.5 | 9 | SN | | | 3 | E | | 60 | | E |
| 0486 | 14 | 18191 | 1833 | 1934D | N15 | W06 | 5528 | 06 | 14.3 | 75D | SN | M | 1.3 | | | | | 72 | | EFK |
| | RAMY | 14 | 1819 | 1819U | 1934D | N14 | W06 | 5528 | 06 | 14.3 | 75D | SN | M | 1.3 | 2 | E | | 99 | | FE |
| | RAMY | 14 | 1819 | 1833 | 1934D | N14 | W06 | 5528 | 06 | 14.3 | 75D | SN | | | | E | | 38 | | K |
| | PALE | 14 | 1820 | 1820U | 1859D | N16 | W05 | 5528 | 06 | 14.4 | 39D | SF | M | 1.3 | 3 | E | | 79 | | F |
| 0487 | HOLL | 14 | 2016E | 2016U | 2046D | S23 | W54 | 5524 | 06 | 10.7 | 30D | 1F | | | 2 | E | | 125 | | F |
| 0488 | PALE | 14 | 2130E | 2135U | 2159 | S15 | W77 | 5521 | 06 | 9.1 | 29D | SF | C | 7.3 | 3 | E | | 23 | | |
| 0489 | PALE | 14 | 2313E | 2313U | 2339 | S21 | E25 | 5533 | 06 | 16.9 | 26D | SF | C | 7.8 | 3 | E | | 25 | | F |
| 0490 | PALE | 14 | 2334E | 2336U | 2357 | N13 | W63 | 5526 | 06 | 10.2 | 23D | SF | | | 3 | E | | 30 | | |
| 0491 | PALE | 14 | 2338E | 2338U | 2414D | S17 | W78 | 5521 | 06 | 9.0 | 36D | SF | | | 3 | E | | 31 | | |
| 0492 | HOLL | 15 | 0003E | 0004 | 0017D | S19 | E19 | 5533 | 06 | 16.4 | 14D | SF | | | 2 | E | | 71 | | |
| 0493 | 15 | 0132 | 0134* | 0159 | N18 | W09 | 5528 | 06 | 14.4 | 27 | SF | C | 5.1 | | | | | 45 | 0.9 | EFU |
| | LEAR | 15 | 0132 | 0134 | 0141 | N17 | W09 | 5528 | 06 | 14.4 | 9 | SF | C | 5.1 | 3 | E | | 33 | | UF |
| | HOLL | 15 | 0136E | 0136U | 0137D | N20 | W05 | 5528 | 06 | 14.7 | 1D | SF | | | 1 | E | | 21 | | F |
| | URUM | 15 | 0146E | 0207 | 0217 | N18 | W12 | 5528 | 06 | 14.1 | 31D | SN | | | | C | | 80 | 0.9 | E |
| 0494 | LEAR | 15 | 0220 | 0223 | 0244 | N13 | W59 | 5526 | 06 | 10.6 | 24 | SF | | | 3 | E | | 24 | | |

H α SOLAR FLARES

29
Jun 89

JUNE 1989

| Grp # | Sta | Day | Start (UT) | Max (UT) | End (UT) | NOAA/USAF | | CMP Mo | Dur (Min) | Imp Opt | Xray | Obs See | Type | Area Measurement | | | Remarks | |
|-------|------|-----|------------|----------|----------|-----------|---------|--------|-----------|---------|------|---------|------|------------------|----------------------|---------------|---------|---|
| | | | | | | Region | Lat CMD | | | | | | | Time (UT) | Apparent (10-6 Disk) | Corr (Sq Deg) | | |
| 0495 | URUM | 15 | 0314E | 0324 | 0338 | N15 W15 | 5528 | 06 | 14.0 | 24D | SN | | C | | 177 | 1.9 | F | |
| 0496 | ABST | 15 | 0408 | 0410 | 0416 | S20 E15 | 5533 | 06 | 16.3 | 8 | SN | | C | 0410 | 87 | 1.0 | D | |
| 0497 | ABST | 15 | 0426 | 0428 | 0435 | N22 W70 | 5531 | 06 | 9.8 | 9 | SN | | C | 0428 | 87 | | D | |
| 0498 | ABST | 15 | 0434 | 0436 | 0440 | N23 E90 | 5544 | 06 | 22.1 | 6 | SN | | C | 0436 | 87 | | D | |
| 0499 | | 15 | 05032 | 0506 | 0514 | N16 W12 | 5528 | 06 | 14.3 | 11 | SN | | | | 59 | 0.9 | E | |
| | ABST | 15 | 0503 | 0506 | 0515 | N15 W13 | 5528 | 06 | 14.2 | 12 | SN | | C | 0506 | 87 | 0.9 | E | |
| | LEAR | 15 | 0505 | 0506 | 0513 | N17 W12 | 5528 | 06 | 14.3 | 8 | SF | 3 | E | | 31 | | | |
| 0500 | | 15 | 05422 | 05434 | 0559 | S21 E21 | 5533 | 06 | 16.8 | 17 | SN | C 6.3 | | | 166 | 2.4 | E | |
| | LEAR | 15 | 0542 | 0543 | 0600 | S22 E20 | 5533 | 06 | 16.8 | 18 | SF | C 6.3 | 3 | E | 40 | | | |
| | ATHN | 15 | 0542E | 0547U | 0552 | S17 E22 | 5533 | 06 | 16.9 | 10D | 1N | | 2 | V | 0547 | 302 | 3.6 | |
| | ABST | 15 | 0543 | 0546 | 0605 | S22 E20 | 5533 | 06 | 16.8 | 22 | 1N | | | C | 0546 | 261 | 3.1 | E |
| | URUM | 15 | 0544 | 0547 | 0551D | S22 E19 | 5533 | 06 | 16.7 | 7D | SF | | | C | | 64 | 0.8 | E |
| | YUNN | 15 | 0556E | 0556U | 0605D | S22 E22 | 5533 | 06 | 16.9 | 9D | SN | | | P | 0556 | 161 | 1.9 | E |
| 0501 | URUM | 15 | 0727 | 0741 | 0745 | S14 W80 | 5521 | 06 | 9.3 | 18 | SB | | C | | 48 | | A | |
| 0502 | HTPR | 15 | 0736 | 0740 | 0743 | N16 W90 | 5531 | 06 | 8.5 | 7 | SB | | | 0740 | 60 | | | |
| 0503 | ISTA | 15 | 0804 | | 0830 | N23 E00 | 5536A | 06 | 15.3 | 26 | SB | | V | | | | E | |
| 0504 | | 15 | 0736* | 0741* | 0804 | N17 W12 | 5528 | 06 | 14.4 | 28 | SN | | | | 96 | 1.0 | EFI | |
| | HTPR | 15 | 0736 | 0741 | 0810 | N15 W10 | 5528 | 06 | 14.5 | 34 | SN | | | 0741 | 70 | 0.7 | EI | |
| | ISTA | 15 | 0737 | | 0804 | N16 W10 | 5528 | 06 | 14.5 | 27 | 1B | | V | | | | F | |
| | HTPR | 15 | 0737 | 0741 | 0800 | N17 W15 | 5528 | 06 | 14.2 | 23 | SB | | | 0741 | 150 | 1.5 | EI | |
| | URUM | 15 | 0741 | 0744 | 0749 | N16 W13 | 5528 | 06 | 14.3 | 8 | SN | | C | | 113 | 1.2 | E | |
| | URUM | 15 | 0753 | 0755 | 0802 | N16 W13 | 5528 | 06 | 14.3 | 9 | SN | | C | | 129 | 1.4 | E | |
| | HTPR | 15 | 0804 | 0805 | 0820 | N20 W08 | 5528 | 06 | 14.7 | 16 | SF | | | 0805 | 20 | 0.2 | E | |
| 0505 | HTPR | 15 | 0832 | 0834 | 0839 | N17 W16 | 5528 | 06 | 14.1 | 7 | SF | | | 0834 | 50 | 0.5 | E | |
| 0506 | | 15 | 0858* | 09152 | 0939 | N18 W14 | 5528 | 06 | 14.3 | 41 | SB | | | | 137 | 1.5 | EFI | |
| | ISTA | 15 | 0858 | | 0927 | N18 W15 | 5528 | 06 | 14.2 | 29 | 1B | | V | | | | F | |
| | HTPR | 15 | 0858 | 0915 | 0955 | N17 W16 | 5528 | 06 | 14.1 | 57 | SB | | | 0917 | 120 | 1.2 | EI | |
| | URUM | 15 | 0912 | 0917 | 0944 | N18 W13 | 5528 | 06 | 14.4 | 32 | SN | | C | | 129 | 1.4 | E | |
| | YUNN | 15 | 0913 | 0915 | 0930 | N18 W12 | 5528 | 06 | 14.5 | 17 | SN | | C | | 161 | 1.8 | F | |
| 0507 | | 15 | 0912 | 09151 | 0928 | S19 W60 | 5524 | 06 | 10.8 | 16 | SN | | | | 33 | 0.7 | DE | |
| | YUNN | 15 | 0912 | 0915 | 0932 | S19 W62 | 5524 | 06 | 10.6 | 20 | SN | | C | | 16 | 0.4 | D | |
| | HTPR | 15 | 0914E | 0916 | 0925 | S19 W58 | 5524 | 06 | 10.9 | 11D | SN | | | 0916 | 50 | 1.0 | E | |
| 0508 | HURB | 15 | 0915 | 0916 | 0925 | N17 E14 | 5536 | 06 | 16.4 | 10 | SF | | | | | | E | |
| 0509 | | 15 | 09349 | 0945 | 0956 | S19 E15 | 5533 | 06 | 16.5 | 22 | SB | | | | 134 | 1.4 | DEFI | |
| | HTPR | 15 | 0934 | 0945 | 0956 | S17 E15 | 5533 | 06 | 16.5 | 22 | SB | | | 0945 | 140 | 1.4 | EI | |
| | URUM | 15 | 0942 | 0945 | 0957 | S21 E16 | 5533 | 06 | 16.6 | 15 | SB | | C | | 129 | 1.5 | D | |
| | ISTA | 15 | 0943 | | 0954 | S20 E15 | 5533 | 06 | 16.5 | 11 | 1B | | V | | | | F | |
| 0510 | HTPR | 15 | 0934 | 0938 | 0946 | S15 W90 | 5521 | 06 | 8.6 | 12 | SN | | | 0938 | 50 | | | |
| 0511 | SVTO | 15 | 1002E | 1002U | 1006 | S17 W81 | 5521 | 06 | 9.3 | 4D | SF | 2 | E | | 16 | | | |
| 0512 | | 15 | 10342 | 10398 | 1100 | N16 W12 | 5528 | 06 | 14.5 | 26 | SN | | | | 74 | 1.0 | EIZ | |
| | HTPR | 15 | 1034 | 1039 | 1106 | N17 W10 | 5528 | 06 | 14.7 | 32 | SN | | | 1039 | 100 | 1.0 | EI | |
| | CATA | 15 | 1036 | 1042 | 1057 | N18 W14 | 5528 | 06 | 14.4 | 21 | SB | 2 | C | 1042 | 84 | 0.9 | Z | |
| | SVTO | 15 | 1037E | 1038U | 1058 | N16 W12 | 5528 | 06 | 14.5 | 21D | SF | 3 | E | | 18 | | | |
| | URUM | 15 | 1046E | 1047 | 1100 | N14 W12 | 5528 | 06 | 14.5 | 14D | SN | | C | | 96 | 1.0 | E | |
| 0513 | URUM | 15 | 1044 | 1058 | 1105 | S35 E77 | | 06 | 21.6 | 21 | SN | | C | | 32 | | A | |
| 0514 | HTPR | 15 | 1059E | | 1107D | S15 W90 | 5521 | 06 | 8.6 | 8D | SN | | | 1059 | 60 | | | |
| 0515 | | 15 | 11205 | 11324 | 1204 | N22 E03 | 5536A | 06 | 15.7 | 44 | 1N | | | | 300 | 4.8 | EFI | |
| | HTPR | 15 | 1120 | 1132 | 1200 | N22 E03 | 5536A | 06 | 15.7 | 40 | 1B | | | 1132 | 450 | 4.8 | EFI | |
| | RAMY | 15 | 1125 | 1132 | 1214D | N20 E03 | 5536A | 06 | 15.7 | 49D | 1N | 2 | E | | 183 | | F | |
| | SVTO | 15 | 1125E | 1136 | 1207 | N23 E02 | 5536A | 06 | 15.6 | 42D | 2N | 2 | E | | 267 | | F | |

H α SOLAR FLARES

JUNE 1989

| Grp # | Sta | Day | Start (UT) | Max (UT) | End (UT) | 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) | | | |
| 0516 | | 15 | 1139 | 11402 | 1148 | N21 E87 5544 | 06 22.1 | 9 | SN M 1.6 | | | | 38 | | A | | |
| | URUM | 15 | 1130E | 1142 | 1150 | N22 E84 5544 | 06 21.9 | 200 | SB | | | C | 64 | | A | | |
| | RAMY | 15 | 1139 | 1140 | 1147 | N20 E90 5544 | 06 22.4 | 8 | SF M 1.6 | 2 | E | | 12 | | | | |
| 0517 | HTPR | 15 | 1157E | | 1215 | N15 W17 5528 | 06 14.2 | 180 | SN | | | | 1206 | 100 | 1.0 | E | |
| 0518 | | 15 | 12056 | 12162 | 1255 | S18 W60 5524 | 06 10.9 | 50 | SN | | | | | 99 | 4.0 | EFU | |
| | HTPR | 15 | 1205 | 1218 | 1258 | S18 W62 5524 | 06 10.8 | 53 | 1B | | | | 1218 | 200 | 4.0 | EU | |
| | SVTO | 15 | 1211 | 1216 | 1247 | S20 W59 5524 | 06 11.0 | 36 | SN | 3 | E | | | 63 | | F | |
| | HOLL | 15 | 1213E | 1217U | 1301 | S16 W56 5524 | 06 11.3 | 480 | SN | 2 | E | | | 80 | | U | |
| | RAMY | 15 | 1227E | 1234U | 1306D | S18 W61 5524 | 06 10.9 | 390 | SF | 2 | E | | | 53 | | F | |
| 0519 | RAMY | 15 | 1229 | 1235 | 1419 | S19 E07 5533 | 06 16.0 | 110 | SF | | | | | | | 17 | |
| 0520 | HOLL | 15 | 1251E | 1259U | 1311 | N20 E00 5536 | 06 15.5 | 200 | SF | | | | | | | | 73 |
| 0521 | | 15 | 1324* | 1336U | 1347 | S17 W60 5524 | 06 11.0 | 23 | SF | | | | | 52 | 1.6 | E | |
| | HTPR | 15 | 1324 | | 1342D | S18 W62 5524 | 06 10.8 | 180 | SN | | | | 1336 | 80 | 1.6 | E | |
| | HOLL | 15 | 1331E | 1336U | 1347 | S17 W57 5524 | 06 11.2 | 160 | SF | 3 | E | | | 35 | | | |
| | RAMY | 15 | 1334 | 1337U | 1350D | S16 W62 5524 | 06 10.9 | 160 | SF | 2 | E | | | 41 | | | |
| 0522 | RAMY | 15 | 1345E | 1345U | 1351D | N18 E02 5536 | 06 15.7 | 60 | SF | | | | | | | | 24 |
| 0523 | RAMY | 15 | 1354 | 1355 | 1359 | S15 W89 5521 | 06 8.8 | 5 | SF | | | | | | | | 39 |
| 0524 | HOLL | 15 | 1408 | 1409 | 1413 | N18 E02 5536 | 06 15.7 | 5 | SF | | | | | | | | 32 |
| 0525 | HTPR | 15 | 1409E | | 1423 | S18 E08 5533 | 06 16.2 | 140 | SN | | | | 1409 | 130 | 1.3 | E | |
| 0526 | | 15 | 1416* | 1420* | 1500 | N16 W17 5528 | 06 14.3 | 44 | SN M 1.0 | | | | | 86 | 2.3 | EFIV | |
| | HOLL | 15 | 1416 | 1420 | 1444 | N16 W12 5528 | 06 14.7 | 28 | SF | 3 | E | | | 54 | | E | |
| | RAMY | 15 | 1416 | 1420 | 1445D | N16 W17 5528 | 06 14.3 | 290 | SF | 2 | E | | | 80 | | | |
| | SVTO | 15 | 1418 | 1420 | 1435 | N17 W16 5528 | 06 14.4 | 17 | SN | 3 | E | | | 65 | | F | |
| | HTPR | 15 | 1418 | 1421 | 1510 | N15 W19 5528 | 06 14.1 | 52 | 1B | | | | 1421 | 220 | 2.3 | EIV | |
| | HOLL | 15 | 1419 | 1420 | 1507 | N15 W22 5528 | 06 13.9 | 48 | SN M 1.0 | 3 | E | | | 58 | | E | |
| | HOLL | 15 | 1500 | 1503 | 1522 | N16 W14 5528 | 06 14.6 | 22 | SF | 3 | E | | | 40 | | F | |
| 0527 | HTPR | 15 | 1507 | | 1612D | N22 E80 5544 | 06 21.8 | 650 | SB | | | | 1528 | 30 | | | |
| 0528 | HOLL | 15 | 1518 | 1521 | 1525 | S20 E12 5533 | 06 16.5 | 7 | SF | | | | | | | | 10 |
| 0529 | | 15 | 1532* | 15378 | 1613 | N16 W15 5528 | 06 14.5 | 41 | SF | | | | | 84 | 1.2 | EFIK | |
| | HOLL | 15 | 1532 | 1537 | 1615 | N16 W13 5528 | 06 14.7 | 43 | SF | | | | | 66 | | K | |
| | HOLL | 15 | 1532 | 1545 | 1615 | N16 W13 5528 | 06 14.7 | 43 | SF | 3 | E | | | 66 | | F | |
| | HTPR | 15 | 1542 | 1544 | 1610 | N16 W18 5528 | 06 14.3 | 28 | SF | | | | 1544 | 120 | 1.2 | EI | |
| 0530 | RAMY | 15 | 1534 | 1544 | 1614 | N09 W27 5545 | 06 13.6 | 40 | SF | | | | | | | | 36 |
| 0531 | RAMY | 15 | 1553 | 1553 | 1557 | S19 E10 5533 | 06 16.4 | 4 | SF | | | | | | | | 17 |
| 0532 | | 15 | 1624 | 1635 | 1715 | N15 W24 5528 | 06 13.9 | 51 | SN | | | | | 80 | 1.3 | E | |
| | RAMY | 15 | 1624 | 1635 | 1715 | N15 W26 5528 | 06 13.7 | 51 | SF | | | | | 40 | | | |
| | HTPR | 15 | 1625E | | 1652D | N15 W23 5528 | 06 13.9 | 270 | SN | 3 | E | | 1632 | 120 | 1.3 | E | |
| 0533 | | 15 | 1644 | 1714* | 1807 | S19 E11 5533 | 06 16.5 | 83 | SF | | | | | 38 | | K | |
| | HOLL | 15 | 1644 | 1714 | 1807 | S19 E11 5533 | 06 16.5 | 83 | SF | 3 | E | | | 35 | | | |
| | HOLL | 15 | 1644 | 1754 | 1807 | S19 E11 5533 | 06 16.5 | 83 | SF | | | | | 40 | | K | |
| 0534 | HOLL | 15 | 1651 | 1657 | 1704 | N20 W10 5528 | 06 14.9 | 13 | SF | | | | | | | | 40 |
| 0535 | PALE | 15 | 1720 | 1725 | 1806 | S27 E06 | 06 16.2 | 46 | SF | | | | | | | | 37 |
| 0536 | HOLL | 15 | 1743E | 1750 | 1759 | N20 W11 5528 | 06 14.9 | 160 | SF | | | | | | | | 27 |
| 0537 | HOLL | 15 | 1829 | 1854 | 1859 | S19 W61 5524 | 06 11.1 | 30 | SF | | | | | | | | 17 |
| 0538 | | 15 | 18411 | 1855 | 1924 | N16 W16 5528 | 06 14.6 | 43 | SF M 2.4 | | | | | 25 | | | |
| | HOLL | 15 | 1841 | 1855 | 1936 | N16 W16 5528 | 06 14.6 | 55 | SF M 2.4 | 3 | E | | | 35 | | | |
| | RAMY | 15 | 1842 | 1855 | 1912 | N16 W16 5528 | 06 14.6 | 30 | SF M 2.4 | 3 | E | | | 15 | | | |

H α SOLAR FLARES

31
Jun 89

JUNE 1989

| Grp # | Sta | Start Day | Max (UT) | End (UT) | NOAA/USAF | | | CMP Mo | Dur (Min) | Imp Opt | Xray | Obs See | Type | Area Measurement | | | Remarks |
|-------|------|-----------|----------|----------|-----------|-----|--------|---------|-----------|---------|-------|---------|------|------------------|----------------------|---------------|---------|
| | | | | | Lat | Cmd | Region | | | | | | | Time (UT) | Apparent (10-6 Disk) | Corr (Sq Deg) | |
| 0539 | | 15 1813* | 1855* | 2046 | S20 | E08 | 5533 | 06 16.4 | 153 | 3B | X 4.1 | | | 455 | | FKU | |
| | HOLL | 15 1813 | 1855 | 2041 | S21 | E08 | 5533 | 06 16.4 | 148 | 3N | | E | | 154 | | K | |
| | HOLL | 15 1813 | 1914 | 2041 | S21 | E08 | 5533 | 06 16.4 | 148 | 3B | X 4.1 | 3 E | | 632 | | UF | |
| | PALE | 15 1855 | 1919 | 2050 | S18 | E07 | 5533 | 06 16.3 | 115 | 2B | | 3 E | | 554 | | | |
| | PALE | 15 1855 | 1923 | 2050 | S18 | E07 | 5533 | 06 16.3 | 115 | 2B | | E | | 481 | | K | |
| 0540 | RAMY | 15 1859 | 1859 | 1905 | N13 | W85 | 5531 | 06 9.4 | 6 | SF | | 3 E | | 11 | | | |
| 0541 | | 15 1917 | 1919 | 1922 | N21 | E79 | 5544 | 06 21.9 | 5 | SF | | | | 20 | | | |
| | HOLL | 15 1917 | 1919 | 1922 | N21 | E78 | 5544 | 06 21.8 | 5 | SF | | 3 E | | 18 | | | |
| | RAMY | 15 1917 | 1920 | 1923 | N21 | E80 | 5544 | 06 21.9 | 6 | SF | | 3 E | | 22 | | | |
| 0542 | HOLL | 15 1925 | 1927 | 1932 | S19 | W61 | 5524 | 06 11.1 | 7 | SF | | 3 E | | 20 | | | |
| 0543 | HOLL | 15 1945 | 1949 | 1955 | S19 | W62 | 5524 | 06 11.1 | 10 | SF | | 3 E | | 17 | | | |
| 0544 | HOLL | 15 1948 | 2002 | 2050 | N20 | W13 | 5528 | 06 14.8 | 62 | SF | | 3 E | | 26 | | | |
| 0545 | | 15 2132* | 22197 | 2238 | N19 | W16 | 5528 | 06 14.7 | 66 | SF | M 1.2 | | | 47 | | E | |
| | HOLL | 15 2132 | 2223 | 2243 | N16 | W17 | 5528 | 06 14.6 | 71 | SN | M 1.2 | 3 E | | 55 | | E | |
| | PALE | 15 2207 | 2219 | 2223 | N20 | W15 | 5528 | 06 14.8 | 16 | SF | | 3 E | | 42 | | | |
| | PALE | 15 2224 | 2226 | 2248 | N20 | W15 | 5528 | 06 14.8 | 24 | SF | | 3 E | | 44 | | | |
| 0546 | LEAR | 16 0429 | 0432 | 0433 | N16 | W90 | 5531 | 06 9.4 | 4 | SF | | 3 E | | 15 | | | |
| 0547 | | 16 0414* | 0420* | 0736 | S17 | E02 | 5533 | 06 16.3 | 202 | 2N | X 3.0 | | | 396 | 5.9 | EFIKLMTU | |
| | LEAR | 16 0414 | 0423 | 0931D | S17 | W01 | 5533 | 06 16.1 | 317D | 2B | | E | | 263 | | KT | |
| | LEAR | 16 0414 | 0741 | 0931D | S17 | W01 | 5533 | 06 16.1 | 317D | 2B | | 3 E | | 368 | | FT | |
| | YUNN | 16 0415E | 0420 | 0452 | S16 | E03 | 5533 | 06 16.4 | 37D | 1B | | P | | 321 | 3.5 | F | |
| | PALE | 16 0415 | 0425 | 0451 | S17 | E03 | 5533 | 06 16.4 | 36 | 1F | X 3.0 | 3 E | | 101 | | F | |
| | TACH | 16 0419E | | 0601D | S17 | E03 | 5533 | 06 16.4 | 102D | 2N | | 3 C | 0419 | 790 | 8.6 | EIL | |
| | SVTO | 16 0505E | 0517U | 0517D | S16 | E04 | 5533 | 06 16.5 | 12D | 1N | M 2.5 | 2 E | | 215 | | | |
| | SVTO | 16 0505 | 0537 | 0751D | S16 | E04 | 5533 | 06 16.5 | 166D | 1N | M 6.8 | E | | 303 | | K | |
| | SVTO | 16 0505E | 0748 | 1032 | S16 | E04 | 5533 | 06 16.5 | 327D | 2B | | 2 E | | 373 | | FT | |
| | SVTO | 16 0505E | 0810 | 1032 | S16 | E04 | 5533 | 06 16.5 | 327D | 2N | | E | | 303 | | KT | |
| | YUNN | 16 0510 | 0520 | 0610 | S18 | E02 | 5533 | 06 16.4 | 60 | 1N | | C | | 354 | 3.9 | F | |
| | BUCA | 16 0657 | 0742 | 0903D | S21 | E03 | 5533 | 06 16.5 | 126D | 1N | | C | 0742 | 430 | 4.7 | E | |
| | KANZ | 16 0725E | 0745 | 0834D | S18 | W00 | 5533 | 06 16.3 | 69D | 2N | | V | | | | EF | |
| | URUM | 16 0725 | 0751 | 0755D | S19 | W01 | 5533 | 06 16.2 | 30D | 2B | | C | | 530 | 5.8 | F | |
| | ISTA | 16 0738 | 0749 | 0838 | S20 | E03 | 5533 | 06 16.5 | 60 | 3B | | V | | | | MUZI | |
| | YUNN | 16 0745E | 0745U | 0814D | S19 | E03 | 5533 | 06 16.5 | 29D | 2B | | P | 0745 | 804 | 8.8 | F | |
| 0548 | | 16 0614 | 0615 | 0632 | N24 | W12 | 5536A | 06 15.3 | 18 | SN | | | | 126 | 2.2 | EF | |
| | LEAR | 16 0614 | 0615 | 0631 | N24 | W13 | 5536A | 06 15.2 | 17 | SF | | 3 E | | 69 | | F | |
| | SVTO | 16 0614 | 0615 | 0637 | N24 | W13 | 5536A | 06 15.2 | 23 | SN | | 3 E | | 60 | | | |
| | BUCA | 16 0615E | 0615U | 0632 | N24 | W12 | 5536A | 06 15.3 | 17D | 1N | | C | 0615 | 215 | 2.5 | E | |
| | YUNN | 16 0616E | 0616U | 0626 | N25 | W12 | 5536A | 06 15.3 | 10D | SN | | P | 0616 | 161 | 1.9 | E | |
| 0549 | | 16 0605E | 0605U | 0733 | S19 | W01 | 5533 | 06 16.2 | 88D | 2N | | | | 506 | 5.3 | EFIUV | |
| | BUCA | 16 0605E | 0605U | 0651 | S20 | W03 | 5533 | 06 16.0 | 46D | SF | | C | 0605 | 107 | 1.2 | E | |
| | YUNN | 16 0625E | 0625U | 0648 | S18 | E01 | 5533 | 06 16.3 | 23D | 2N | | P | 0625 | 611 | 6.7 | F | |
| | HTRP | 16 0632E | | 0900 | S18 | W01 | 5533 | 06 16.2 | 148D | 2B | | | 0746 | 800 | 8.0 | EIUV | |
| 0550 | HTRP | 16 0635 | 0640 | 0650 | N15 | W29 | 5528 | 06 14.1 | 15 | SF | | | 0640 | 30 | 0.3 | | |
| 0551 | | 16 07003 | 07181 | 0732 | N16 | W28 | 5528 | 06 14.2 | 32 | SN | | | | 94 | 1.1 | E | |
| | BUCA | 16 0700 | 0718 | 0735 | N16 | W26 | 5528 | 06 14.3 | 35 | SF | | C | 0718 | 107 | 1.3 | E | |
| | HTRP | 16 0703 | 0719 | 0730 | N15 | W29 | 5528 | 06 14.1 | 27 | SN | | | 0719 | 80 | 0.9 | E | |
| 0552 | HTRP | 16 0827 | 0835 | 0848 | N33 | W20 | | 06 14.8 | 21 | SF | | | 0835 | 80 | 0.9 | E | |
| 0553 | | 16 0815* | 0836 | 0848 | N10 | W62 | 5547 | 06 11.7 | 33 | 1N | | | | 40 | 0.8 | E | |
| | HTRP | 16 0815 | 0836 | 0848 | N09 | W63 | 5547 | 06 11.6 | 33 | SF | | | 0836 | 40 | 0.8 | | |
| | ISTA | 16 0834 | | 0847 | N10 | W62 | 5547 | 06 11.7 | 13 | 1N | | V | | | | E | |
| 0554 | SVTO | 16 0903 | 0904 | 0915 | N17 | W07 | 5536 | 06 15.8 | 12 | SF | | 2 E | | 25 | | | |
| 0555 | | 16 09151 | 0936 | 0950 | S20 | E00 | 5533 | 06 16.4 | 35 | 2B | | | | 354 | 3.9 | EFM | |
| | YUNN | 16 0915 | 0936 | 0946 | S19 | W02 | 5533 | 06 16.2 | 31 | 1N | | C | | 354 | 3.9 | F | |
| | ISTA | 16 0916 | | 0955 | S20 | E02 | 5533 | 06 16.5 | 39 | 2B | | V | | | | ME | |

H α SOLAR FLARES

JUNE 1989

| Grp # | Sta | Day | Start (UT) | Max (UT) | End (UT) | NOAA/USAF Region | | | CMP Mo Day | Dur (Min) | Imp Opt | Xray | Obs See | Type | Time (UT) | Area Measurement | | Remarks |
|-------|------|-----|------------|----------|----------|------------------|-----|--------|------------|-----------|---------|------|---------|------|-----------|----------------------|---------------|---------|
| | | | | | | Lat | Cmd | Region | | | | | | | | Apparent (10-6 Disk) | Corr (Sq Deg) | |
| 0556 | | 16 | 09352 | 0938 | 0958 | N16 | W23 | 5528 | 06 | 14.6 | 23 | 1B | | | 0938 | 80 | 0.9 | EF |
| | HTPR | 16 | 0935 | 0938 | 1000 | N16 | W26 | 5528 | 06 | 14.4 | 25 | SN | | | | 80 | 0.9 | E |
| | ISTA | 16 | 0937 | | 0955 | N16 | W20 | 5528 | 06 | 14.9 | 18 | 1B | V | | | | | F |
| 0557 | | 16 | 1019 | 1040* | 1245 | N16 | W22 | 5528 | 06 | 14.8 | 146 | 1N | | | 1145 | 162 | 2.2 | EFIK |
| | HTPR | 16 | 1019 | 1040 | 1345 | N17 | W27 | 5528 | 06 | 14.4 | 206 | 1N | | | | 250 | 2.8 | EIK |
| | RAMY | 16 | 1033E | 1133 | 1240 | N14 | W23 | 5528 | 06 | 14.7 | 127D | SF | 3 | E | | 93 | | F |
| | ISTA | 16 | 1050E | 1119 | 1150 | N16 | W20 | 5528 | 06 | 14.9 | 60D | 1B | | V | | | | F |
| | ATHN | 16 | 1113E | 1113U | 1120D | N17 | W20 | 5528 | 06 | 14.9 | 7D | SN | 2 | V | 1113 | 143 | 1.6 | |
| 0558 | HTPR | 16 | 1100 | 1102 | 1105 | N14 | W72 | 5526 | 06 | 11.0 | 5 | SN | | | 1102 | 60 | | E |
| 0559 | | 16 | 1203 | 1205 | 1211 | S19 | W71 | 5524 | 06 | 11.1 | 8 | SN M | 1.0 | | | 56 | | E |
| | HTPR | 16 | 1203 | 1205 | 1211 | S19 | W72 | 5524 | 06 | 11.0 | 8 | SB | | | 1205 | 60 | | E |
| | RAMY | 16 | 1203 | 1205 | 1211 | S19 | W70 | 5524 | 06 | 11.2 | 8 | SF M | 1.0 | 2 | E | 51 | | |
| 0560 | | 16 | 12221 | 12242 | 1240 | S18 | W02 | 5533 | 06 | 16.4 | 18 | SB M | 1.4 | | 1224 | 72 | 1.0 | E |
| | HTPR | 16 | 1222 | 1224 | 1240 | S18 | W02 | 5533 | 06 | 16.4 | 18 | SB | | | | 100 | 1.0 | E |
| | RAMY | 16 | 1223 | 1226 | 1240 | S18 | W01 | 5533 | 06 | 16.4 | 17 | SN M | 1.4 | 3 | E | 43 | | E |
| 0561 | | 16 | 14211 | 14261 | 1448 | S18 | W08 | 5540A | 06 | 16.0 | 27 | 1F | | | | 122 | 2.3 | EI |
| | HOLL | 16 | 1421 | 1426 | 1453 | S17 | W06 | 5540A | 06 | 16.1 | 32 | SF | | 3 | E | 25 | | |
| | HTPR | 16 | 1422 | 1427 | 1442 | S18 | W09 | 5540A | 06 | 15.9 | 20 | 1F | | | 1427 | 220 | 2.3 | EI |
| 0562 | | 16 | 14422 | 14451 | 1452 | N16 | W28 | 5528 | 06 | 14.5 | 10 | SF | | | | 35 | 0.7 | EF |
| | HTPR | 16 | 1442 | 1446 | 1454 | N16 | W29 | 5528 | 06 | 14.4 | 12 | SF | | | 1446 | 60 | 0.7 | E |
| | HOLL | 16 | 1444 | 1445 | 1450 | N15 | W26 | 5528 | 06 | 14.6 | 6 | SF | 3 | E | | 10 | | F |
| 0563 | | 16 | 15022 | 15133 | 1549 | N16 | W11 | 5536 | 06 | 15.8 | 47 | 1F C | 8.4 | | | 78 | | F |
| | HOLL | 16 | 1502 | 1513 | 1549 | N17 | W11 | 5536 | 06 | 15.8 | 47 | 1F C | 8.4 | 3 | E | 115 | | F |
| | RAMY | 16 | 1504 | 1516 | 1549 | N16 | W11 | 5536 | 06 | 15.8 | 45 | SF C | 8.4 | 3 | E | 40 | | F |
| 0564 | | 16 | 1500* | 1523* | 1540 | N19 | W25 | 5528 | 06 | 14.7 | 40 | SF | | | | 87 | 2.4 | EFI |
| | HTPR | 16 | 1500 | 1523 | 1540 | N18 | W23 | 5528 | 06 | 14.9 | 40 | 1F | | | 1523 | 220 | 2.4 | EI |
| | HOLL | 16 | 1518 | 1523 | 1536 | N21 | W28 | 5528 | 06 | 14.5 | 18 | SF | 3 | E | | 23 | | F |
| | HOLL | 16 | 1537 | 1538 | 1543 | N18 | W24 | 5528 | 06 | 14.8 | 6 | SF | 3 | E | | 18 | | |
| 0565 | HOLL | 16 | 1622 | 1625 | 1646 | N10 | W57 | 5545 | 06 | 12.4 | 24 | SF | 3 | E | | 29 | | |
| 0566 | HTPR | 16 | 1632 | 1637 | 1655 | N17 | W30 | 5528 | 06 | 14.4 | 23 | SF | | | 1637 | 60 | 0.7 | E |
| 0567 | | 16 | 16432 | 16541 | 1734 | S18 | W08 | 5533 | 06 | 16.1 | 51 | 1N M | 2.4 | | | 138 | 3.0 | EFI |
| | HTPR | 16 | 1643 | | 1738D | S18 | W10 | 5533 | 06 | 15.9 | 55D | 1B | | | 1653 | 300 | 3.0 | EI |
| | HOLL | 16 | 1644 | 1654 | 1748 | S18 | W08 | 5533 | 06 | 16.1 | 64 | 1N M | 2.4 | 3 | E | 134 | | |
| | RAMY | 16 | 1645 | 1655 | 1721 | S19 | W09 | 5533 | 06 | 16.0 | 36 | SF | | 3 | E | 79 | | F |
| | PALE | 16 | 1647E | 1647U | 1649D | S19 | W03 | 5533 | 06 | 16.5 | 2D | SF | | 2 | E | 37 | | |
| 0568 | | 16 | 16442 | 16461 | 1700 | N13 | W06 | 5536 | 06 | 16.2 | 16 | SF | | | | 35 | 0.6 | E |
| | HTPR | 16 | 1644 | | 1738D | N14 | W09 | 5536 | 06 | 16.0 | 54D | SN | | | 1647 | 60 | 0.6 | E |
| | HOLL | 16 | 1645 | 1646 | 1704 | N13 | W05 | 5536 | 06 | 16.3 | 19 | SF | 3 | E | | 27 | | |
| | RAMY | 16 | 1646 | 1647 | 1656 | N13 | W04 | 5536 | 06 | 16.4 | 10 | SF | 3 | E | | 17 | | |
| 0569 | | 16 | 1646* | 1655* | 1711 | N10 | W58 | 5545 | 06 | 12.3 | 25 | SF | | | | 24 | | |
| | HOLL | 16 | 1646 | 1707 | 1718 | N10 | W58 | 5545 | 06 | 12.3 | 32 | SF | 3 | E | | 32 | | |
| | RAMY | 16 | 1649 | 1655 | 1659 | N10 | W57 | 5545 | 06 | 12.4 | 10 | SF | 3 | E | | 18 | | |
| | RAMY | 16 | 1659 | 1707 | 1717 | N09 | W59 | 5545 | 06 | 12.3 | 18 | SF | 3 | E | | 23 | | |
| 0570 | | 16 | 16493 | 16582 | 1710 | S19 | W84 | 5524 | 06 | 10.3 | 21 | 1B | | | | 146 | | AE |
| | HTPR | 16 | 1649 | 1700 | 1710 | S19 | W85 | 5524 | 06 | 10.2 | 21 | 1B | | | 1700 | 160 | | AE |
| | HOLL | 16 | 1652 | 1658 | 1710 | S19 | W82 | 5524 | 06 | 10.4 | 18 | 1N | 3 | E | | 131 | | |
| 0571 | HTPR | 16 | 1656 | 1701 | 1706 | N18 | E50 | 5543 | 06 | 20.5 | 10 | SF | | | 1701 | 20 | 0.3 | |
| 0572 | | 16 | 16565 | 17058 | 1734 | S22 | E68 | 5542 | 06 | 21.9 | 38 | 1N | | | | 116 | 2.6 | EFK |
| | HTPR | 16 | 1656 | 1705 | 1730 | S20 | E65 | 5542 | 06 | 21.7 | 34 | 1B | | | 1705 | 120 | 2.6 | E |
| | HOLL | 16 | 1657 | 1705 | 1737 | S23 | E67 | 5542 | 06 | 21.9 | 40 | 1B | 3 | E | | 132 | | |
| | HOLL | 16 | 1657 | 1713 | 1737 | S23 | E67 | 5542 | 06 | 21.9 | 40 | 1F | | E | | 112 | | K |
| | RAMY | 16 | 1701 | 1705 | 1734 | S23 | E72 | 5542 | 06 | 22.2 | 33 | 1F | 3 | E | | 102 | | F |

H α SOLAR FLARES

JUNE 1989

| Grp # | Sta | Day | Start (UT) | Max (UT) | End (UT) | Lat | CMD | NOAA/ USAF Region | CMP Mo | Dur Day | Imp (Min) | Xray | Obs See | Type | Area Measurement | | | Remarks |
|-------|------|-----|------------|----------|----------|-----|-----|-------------------------|-----------|------------|--------------|----------|------------|------|------------------|----------------------|---------------|---------|
| | | | | | | | | | | | | | | | Time (UT) | Apparent (10-6 Disk) | Corr (Sq Deg) | |
| 0573 | | 16 | 17074 | 17191 | 1732 | N16 | W05 | 5536 | 06 | 16.3 | 25 | SF | | | | 30 | | F |
| | HOLL | 16 | 1707 | 1719 | 1736 | N17 | W05 | 5536 | 06 | 16.3 | 29 | SF | 3 | E | | 43 | | |
| | RAMY | 16 | 1711 | 1720 | 1729 | N15 | W05 | 5536 | 06 | 16.3 | 18 | SF | 3 | E | | 18 | | F |
| 0574 | HOLL | 16 | 1726 | 1731 | 1737 | N17 | W27 | 5528 | 06 | 14.7 | 11 | SF | 3 | E | | 18 | | |
| 0575 | RAMY | 16 | 1733 | 1733 | 1742 | S18 | W07 | 5533 | 06 | 16.2 | 9 | SF | 3 | E | | 14 | | F |
| 0576 | | 16 | 17521 | 17521 | 1759 | N18 | E52 | 5543 | 06 | 20.7 | 7 | SF | | | | 14 | | |
| | HOLL | 16 | 1752 | 1752 | 1759 | N17 | E52 | 5543 | 06 | 20.7 | 7 | SF | 3 | E | | 13 | | |
| | RAMY | 16 | 1753 | 1753 | 1759 | N18 | E52 | 5543 | 06 | 20.7 | 6 | SF | 3 | E | | 14 | | |
| 0577 | HOLL | 16 | 1833 | 1833U | 1841 | N17 | W28 | 5528 | 06 | 14.6 | 8 | SF | 3 | E | | 13 | | F |
| 0578 | | 16 | 1840* | 1841* | 2012 | S20 | W04 | 5533 | 06 | 16.5 | 92 | 1N M 4.9 | | | | 128 | | EFK |
| | HOLL | 16 | 1840 | 1841 | 2022 | S21 | W02 | 5533 | 06 | 16.6 | 102 | SN | | E | | 16 | | K |
| | HOLL | 16 | 1840 | 1903 | 2022 | S21 | W02 | 5533 | 06 | 16.6 | 102 | 1B M 4.9 | 3 | E | | 203 | | |
| | RAMY | 16 | 1842E | 1906U | 2023D | S20 | W02 | 5533 | 06 | 16.6 | 101D | 1N M 4.9 | 2 | E | | 224 | | FE |
| | PALE | 16 | 1905E | 1914 | 1955 | S18 | W04 | 5533 | 06 | 16.5 | 50D | 1F | 3 | E | | 167 | | F |
| | PALE | 16 | 2004 | 2004 | 2010 | S19 | W09 | 5533 | 06 | 16.1 | 6 | SF | 3 | E | | 29 | | |
| 0579 | HOLL | 16 | 2102 | 2103 | 2117 | S18 | W05 | 5533 | 06 | 16.5 | 15 | SF | 3 | E | | 21 | | F |
| 0580 | | 16 | 2148 | 21514 | 2218 | S21 | W07 | 5533 | 06 | 16.4 | 30 | SB M 2.5 | | | | 83 | | K |
| | HOLL | 16 | 2148 | 2151 | 2218 | S21 | W07 | 5533 | 06 | 16.4 | 30 | SB M 2.5 | 3 | E | | 78 | | |
| | HOLL | 16 | 2148 | 2155 | 2218 | S21 | W07 | 5533 | 06 | 16.4 | 30 | SB | | E | | 88 | | K |
| 0581 | HOLL | 16 | 2241 | 2246 | 2252 | S17 | W07 | 5533 | 06 | 16.4 | 11 | SF | 3 | E | | 17 | | |
| 0582 | | 17 | 00272 | 00282 | 0040 | S18 | W08 | 5533 | 06 | 16.4 | 13 | SN C 4.7 | | | | 55 | 1.1 | |
| | YUNN | 17 | 0027 | 0028 | 0041 | S18 | W07 | 5533 | 06 | 16.5 | 14 | SN | | C | | 96 | 1.1 | |
| | LEAR | 17 | 0029 | 0030 | 0038 | S17 | W08 | 5533 | 06 | 16.4 | 9 | SF C 4.7 | 3 | E | | 14 | | |
| 0583 | LEAR | 17 | 0059 | 0101 | 0113 | S18 | W08 | 5533 | 06 | 16.4 | 14 | SF C 9.3 | 4 | E | | 22 | | |
| 0584 | | 17 | 04381 | 04391 | 0455 | N16 | W42 | 5528 | 06 | 14.0 | 17 | SN | | | | 39 | 0.9 | E |
| | YUNN | 17 | 0438 | 0439 | 0454 | N16 | W42 | 5528 | 06 | 14.0 | 16 | SN | | C | | 64 | 0.9 | E |
| | LEAR | 17 | 0439 | 0440 | 0456 | N16 | W43 | 5528 | 06 | 13.9 | 17 | SF | 3 | E | | 14 | | |
| 0585 | | 17 | 04121 | 0415* | 0533 | S20 | W11 | 5533 | 06 | 16.3 | 81 | 1F C 9.1 | | | | 136 | 2.0 | EFK |
| | YUNN | 17 | 0412E | 0415 | 0500 | S20 | W10 | 5533 | 06 | 16.4 | 48D | 1N | | P | | 209 | 2.3 | |
| | URUM | 17 | 0412 | 0416 | 0530 | S21 | W12 | 5533 | 06 | 16.2 | 78 | SN | | C | | 161 | 1.8 | E |
| | LEAR | 17 | 0413 | 0419 | 0545 | S20 | W11 | 5533 | 06 | 16.3 | 92 | 1F C 9.1 | 4 | E | | 116 | | F |
| | LEAR | 17 | 0413 | 0526 | 0545 | S20 | W11 | 5533 | 06 | 16.3 | 92 | 1F | | E | | 17 | | K |
| | SVTO | 17 | 0453E | 0454U | 0546 | S18 | W09 | 5533 | 06 | 16.5 | 53D | 1F | 2 | E | | 175 | | F |
| 0586 | YUNN | 17 | 0533 | 0535 | 0542 | N19 | W37 | 5528 | 06 | 14.4 | 9 | 1F | | C | | 161 | 2.2 | |
| 0587 | | 17 | 07257 | 0742 | 0757 | S15 | W05 | 5533 | 06 | 16.9 | 32 | SF | | | | 69 | 1.2 | EF |
| | HTPR | 17 | 0725 | | 0747D | S15 | W05 | 5533 | 06 | 16.9 | 22D | SF | | | 0731 | 120 | 1.2 | E |
| | LEAR | 17 | 0732 | 0742 | 0757 | S15 | W05 | 5533 | 06 | 16.9 | 25 | SF | 3 | E | | 18 | | F |
| 0588 | | 17 | 07391 | 0742 | 0746 | S18 | W15 | 5533 | 06 | 16.2 | 7 | SN | | | | 50 | 0.5 | DE |
| | ISTA | 17 | 0739 | 0742 | 0746 | S20 | W13 | 5533 | 06 | 16.3 | 7 | SN | | V | | | | D |
| | HTPR | 17 | 0740 | | 0747D | S17 | W17 | 5533 | 06 | 16.0 | 7D | SF | | | 0743 | 50 | 0.5 | E |
| 0589 | | 17 | 0803* | 0815* | 0849 | N17 | W38 | 5528 | 06 | 14.4 | 46 | 1N | | | | 230 | 4.1 | EFI |
| | LEAR | 17 | 0803 | 0815 | 0842 | N17 | W37 | 5528 | 06 | 14.5 | 39 | SF | 3 | E | | 19 | | |
| | YUNN | 17 | 0805 | 0820 | 0838 | N18 | W38 | 5528 | 06 | 14.4 | 33 | 2F | | C | | 482 | 6.6 | F |
| | URUM | 17 | 0810 | 0828 | 0944 | N17 | W38 | 5528 | 06 | 14.4 | 94 | 1N | | C | | 241 | 3.3 | E |
| | ISTA | 17 | 0815 | | 0824 | N16 | W35 | 5528 | 06 | 14.7 | 9 | 1N | | V | | | | F |
| | HTPR | 17 | 0817E | | 0835 | N17 | W40 | 5528 | 06 | 14.3 | 18D | 1N | | | 0825 | 180 | 2.3 | EI |
| 0590 | | 17 | 0848 | 0905 | 0912 | N10 | W69 | 5545 | 06 | 12.2 | 24 | 1N | | | | 72 | 2.9 | EF |
| | LEAR | 17 | 0848 | 0905 | 0912 | N10 | W70 | 5545 | 06 | 12.1 | 24 | SF | 3 | E | | 24 | | F |
| | HTPR | 17 | 0849E | | 0918D | N11 | W68 | 5545 | 06 | 12.2 | 29D | 1N | | | 0853 | 120 | 2.9 | E |
| 0591 | HTPR | 17 | 0854 | | 0918D | N18 | W40 | 5528 | 06 | 14.3 | 24D | SN | | | 0859 | 50 | 0.7 | E |

34
Jun 89

H α SOLAR FLARES

JUNE 1989

| Grp # | Sta | Day | Start (UT) | Max (UT) | End (UT) | Lat | CMD | NOAA/ USAF Region | CMP No | Day | Dur (Min) | Imp Opt | Xray | Obs See | Type | Area Measurement | | | Remarks | |
|-------|------|-----|------------|----------|----------|-----------------|-----|-------------------------|-----------|------|--------------|------------|------|------------|------|------------------|----------------------|---------------|---------|----|
| | | | | | | | | | | | | | | | | Time (UT) | Apparent (10-6 Disk) | Corr (Sq Deg) | | |
| 0592 | | 17 | 09382 | 09434 | 0955 | S18 | W17 | 5533 | 06 | 16.1 | 17 | SB | C | 9.7 | | | 144 | 1.9 | EU | |
| | HTPR | 17 | 0938 | 0944 | 0955 | S17 | W17 | 5533 | 06 | 16.1 | 17 | SB | | | | 0944 | 150 | 1.5 | E | |
| | SVTO | 17 | 0940 | 0944 | 0952 | S19 | W17 | 5533 | 06 | 16.1 | 12 | SN | C | 9.7 | 3 | E | 54 | | | |
| | URUM | 17 | 0940 | 0947 | 1000 | S19 | W17 | 5533 | 06 | 16.1 | 20 | SN | | | | C | 161 | 1.9 | U | |
| | YUNN | 17 | 0941E | 0943 | 0953 | S19 | W17 | 5533 | 06 | 16.1 | 120 | 1B | | | | P | 209 | 2.4 | | |
| 0593 | | 17 | 1040* | 1100* | 1134 | S19 | W15 | 5533 | 06 | 16.3 | 54 | SF | C | 8.3 | | | 132 | 1.9 | EFIU | |
| | URUM | 17 | 1040 | 1104 | 1145 | S20 | W17 | 5533 | 06 | 16.1 | 65 | SN | | | | C | 113 | 1.3 | U | |
| | RAMY | 17 | 1057 | 1100 | 1126 | S19 | W13 | 5533 | 06 | 16.5 | 29 | SF | C | 8.3 | 3 | E | 34 | | F | |
| | HTPR | 17 | 1057 | 1116 | 1132 | S18 | W14 | 5533 | 06 | 16.4 | 35 | 1F | | | | 1116 | 250 | 2.5 | EI | |
| 0594 | | 17 | 11383 | 1141 | 1146 | N17 | W41 | 5528 | 06 | 14.4 | 8 | SB | | | | | 30 | 0.5 | E | |
| | HTPR | 17 | 1138 | | 1146D | N18 | W42 | 5528 | 06 | 14.3 | 8D | SB | | | | 1139 | 40 | 0.5 | | |
| | SVTO | 17 | 1141 | 1141 | 1146 | N16 | W40 | 5528 | 06 | 14.4 | 5 | SN | | | | 3 | E | 19 | E | |
| 0595 | SVTO | 17 | 1150 | 1151 | 1157 | S15 | W07 | 5533 | 06 | 17.0 | 7 | SN | | | | 3 | E | 54 | EF | |
| 0596 | RAMY | 17 | 1312 | 1314 | 1329 | S19 | W13 | 5533 | 06 | 16.5 | 17 | SF | | | | 3 | E | 19 | | |
| 0597 | HOLL | 17 | 1344E | 1344U | 1410D | S18 | W14 | 5533 | 06 | 16.5 | 26D | SF | | | | 3 | E | 21 | | |
| 0598 | RAMY | 17 | 1414 | 1415 | 1423 | S18 | W16 | 5533 | 06 | 16.4 | 9 | SF | | | | 3 | E | 12 | | |
| 0599 | SVTO | 17 | 1435 | 1441 | 1451 | N23 | E60 | 5544 | 06 | 22.2 | 16 | SF | | | | 3 | E | 23 | | |
| 0600 | | 17 | 1529 | 1531 | 1536 | N18 | W42 | 5528 | 06 | 14.4 | 7 | SF | | | | | | 22 | | |
| | RAMY | 17 | 1529 | 1531 | 1536 | N17 | W42 | 5528 | 06 | 14.4 | 7 | SF | | | | 3 | E | 19 | | |
| | HOLL | 17 | 1529 | 1531 | 1536 | N18 | W41 | 5528 | 06 | 14.5 | 7 | SF | | | | 3 | E | 26 | | |
| 0601 | | 17 | 15472 | 1602* | 1845 | N16 | W40 | 5528 | 06 | 14.6 | 178 | 2B | M | 8.7 | | | 395 | | KUYZ | |
| | HOLL | 17 | 1547 | 1602 | 1850 | N17 | W40 | 5528 | 06 | 14.6 | 183 | 2B | | | | 3 | E | 413 | UY | |
| | HOLL | 17 | 1547 | 1646 | 1850 | N17 | W40 | 5528 | 06 | 14.6 | 183 | 2B | | | | | E | 300 | K | |
| | SVTO | 17 | 1549 | 1616 | 1750D | N16 | W40 | 5528 | 06 | 14.6 | 121D | 2B | M | 8.7 | 3 | E | 442 | | UY | |
| | RAMY | 17 | 1555E | 1604 | 1836 | N16 | W39 | 5528 | 06 | 14.7 | 161D | 2B | | | | 3 | E | 425 | ZY | |
| 0602 | | 17 | 15591 | 16031 | 1611 | N14 | W24 | 5536 | 06 | 15.8 | 12 | SF | | | | | | 20 | | |
| | HOLL | 17 | 1559 | 1603 | 1610 | N15 | W22 | 5536 | 06 | 16.0 | 11 | SF | | | | 3 | E | 17 | | |
| | SVTO | 17 | 1600 | 1604 | 1612 | N14 | W25 | 5536 | 06 | 15.8 | 12 | SF | | | | 3 | E | 22 | | |
| 0603 | HOLL | 17 | 1615 | 1617 | 1628 | S19 | E47 | 5542 | 06 | 21.3 | 13 | SF | | | | 3 | E | 12 | | |
| 0604 | HOLL | 17 | 1716 | 1716 | 1723 | S17 | W18 | 5533 | 06 | 16.3 | 7 | SF | | | | 3 | E | 15 | | |
| 0605 | HOLL | 17 | 2058 | 2100 | 2110 | N15 | W49 | 5528 | 06 | 14.2 | 12 | SN | | | | 3 | E | 20 | F | |
| 0606 | HOLL | 17 | 2155 | 2156 | 2219 | N21 | E55 | 5544 | 06 | 22.1 | 24 | SF | | | | 3 | E | 17 | | |
| | | 17 | 2235 | | 2242 | No Flare Patrol | | | | | | | | | | | | | | |
| 0607 | | 17 | 2246 | 2251* | 2314D | S17 | W26 | 5540A | 06 | 16.0 | 28D | SN | | | | | | 50 | EFK | |
| | HOLL | 17 | 2246 | 2251 | 2314D | S17 | W26 | 5540A | 06 | 16.0 | 28D | SN | | | | 3 | E | 65 | FE | |
| | HOLL | 17 | 2246 | 2313 | 2314D | S17 | W26 | 5540A | 06 | 16.0 | 28D | SN | | | | | E | 34 | K | |
| | | 17 | 2315 | | 2318 | No Flare Patrol | | | | | | | | | | | | | | |
| 0608 | PURP | 18 | 0043E | 0043U | 0047D | N20 | W31 | 5536 | 06 | 15.6 | 4D | SB | | | | P | 0043 | 92 | 1.2 | E |
| 0609 | LEAR | 18 | 0350 | 0355 | 0423 | N18 | W40 | 5536 | 06 | 15.1 | 33 | SF | | | | 3 | E | 29 | | |
| 0610 | | 18 | 0534 | 0549 | 0605 | N18 | W56 | 5528 | 06 | 14.0 | 31 | 1N | | | | | | 163 | 3.8 | EF |
| | LEAR | 18 | 0534 | 0549 | 0605 | N17 | W56 | 5528 | 06 | 14.0 | 31 | SF | | | | 3 | E | 43 | | |
| | PURP | 18 | 0534 | 0558U | 0559D | N19 | W53 | 5528 | 06 | 14.2 | 25D | 1B | | | | P | 0558 | 216 | 3.9 | E |
| | ABST | 18 | 0535E | 0549U | 0600D | N18 | W55 | 5528 | 06 | 14.0 | 25D | 1N | | | | P | 0549 | 183 | 3.3 | F |
| | YUNN | 18 | 0539E | 0539U | 0605 | N19 | W59 | 5528 | 06 | 13.7 | 26D | 1N | | | | P | 0539 | 209 | 4.3 | |
| 0611 | | 18 | 06271 | 06291 | 0637 | S20 | W28 | 5533 | 06 | 16.1 | 10 | SN | | | | | | 90 | 1.5 | DE |
| | ABST | 18 | 0627 | 0630 | 0636 | S21 | W29 | 5533 | 06 | 16.0 | 9 | SF | | | | C | 0630 | 87 | 1.1 | D |
| | PURP | 18 | 0627E | 0632U | 0634 | S21 | W25 | 5533 | 06 | 16.3 | 7D | SB | | | | P | 0632 | 153 | 1.9 | E |
| | LEAR | 18 | 0628 | 0629 | 0640 | S19 | W29 | 5533 | 06 | 16.0 | 12 | SF | | | | 3 | E | 31 | | |

H α SOLAR FLARES

JUNE 1989

| Grp # | Sta | Start Day (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) | | |
| 0612 | | 18 07375 | 07395 | 0755 | N14 | W27 | 5536 | 06 | 16.3 | 18 | SN | | | 75 | 1.2 | EF | |
| | PURP | 18 0737 | 0744 | 0759 | N15 | W26 | 5536 | 06 | 16.3 | 22 | SN | P | 0744 | 71 | 0.8 | E | |
| | SVTO | 18 0738 | 0739 | 0758 | N13 | W27 | 5536 | 06 | 16.3 | 20 | SF | 3 | E | 47 | | F | |
| | YUNN | 18 0739E | 0739 | 0747 | N14 | W27 | 5536 | 06 | 16.3 | 80 | SN | P | | 64 | 0.8 | E | |
| | LEAR | 18 0739 | 0740 | 0754 | N14 | W26 | 5536 | 06 | 16.3 | 15 | SF | 3 | E | 23 | | F | |
| | CATA | 18 0742 | 0742 | 0759 | N13 | W27 | 5536 | 06 | 16.3 | 17 | SB | 2 | C | 0742 | 169 | 2.0 | |
| 0613 | ISTA | 18 0738 | | 0751 | N16 | W25 | 5536 | 06 | 16.4 | 13 | 1N | | V | | | | U |
| 0614 | | 18 0737* | 07493 | 0805 | S18 | W30 | 5540A | 06 | 16.0 | 28 | SN | | | 59 | 1.0 | DEF | |
| | PURP | 18 0737 | 0749 | 0809 | S19 | W29 | 5540A | 06 | 16.1 | 32 | SN | C | 0749 | 72 | 0.9 | E | |
| | ISTA | 18 0741 | | 0751D | S17 | W33 | 5540A | 06 | 15.8 | 100 | SN | V | | | | D | |
| | LEAR | 18 0743 | 0749 | 0804 | S17 | W30 | 5540A | 06 | 16.0 | 21 | SF | 3 | E | 36 | | | |
| | YUNN | 18 0744 | 0752 | 0802 | S16 | W29 | 5540A | 06 | 16.1 | 18 | SN | C | | 48 | 0.6 | E | |
| | SVTO | 18 0744 | 0752 | 0805 | S18 | W29 | 5540A | 06 | 16.1 | 21 | SF | 3 | E | 25 | | F | |
| CATA | 18 0748 | 0752 | 0804D | S18 | W29 | 5540A | 06 | 16.1 | 160 | SB | 2 | P | 0752 | 112 | 1.4 | | |
| 0615 | | 18 0822 | 0825 | 0831 | S20 | E45 | 5542 | 06 | 21.8 | 9 | SF | | | 85 | 1.9 | | |
| | YUNN | 18 0822 | 0825 | 0830 | S22 | E49 | 5542 | 06 | 22.1 | 8 | SN | C | | 32 | 0.6 | | |
| | LEAR | 18 0822 | 0825 | 0831 | S19 | E41 | 5542 | 06 | 21.5 | 9 | SF | 3 | E | 19 | | | |
| | PURP | 18 0823E | 0829U | 0832 | S20 | E45 | 5542 | 06 | 21.8 | 9D | 1F | C | 0829 | 205 | 3.2 | | |
| 0616 | PURP | 18 0823E | 0832 | 0837 | N18 | W53 | 5528 | 06 | 14.3 | 14D | SN | C | 0832 | 34 | 0.6 | D | |
| 0617 | KHAR | 18 1020U | | 1030 | N16 | W36 | 5536 | 06 | 15.7 | 10U | SF | 2 | V | 1023 | | | D |
| 0618 | KHAR | 18 1030 | 1032 | 1036 | S23 | W45 | 5540 | 06 | 15.0 | 6 | SF | 2 | P | 1033 | 90 | 1.5 | D |
| 0619 | RAMY | 18 1037E | 1040 | 1103 | N17 | W53 | 5528 | 06 | 14.4 | 26D | SF | 2 | E | | 49 | | |
| 0620 | HOLL | 18 1220E | 1226U | 1234 | S10 | W49 | 5530 | 06 | 14.8 | 14D | SF | 2 | E | | 23 | | |
| 0621 | | 18 12183 | 12211 | 1242 | N16 | W34 | 5536 | 06 | 15.9 | 24 | SF | | | 47 | | F | |
| | RAMY | 18 1218 | 1221 | 1245 | N16 | W34 | 5536 | 06 | 15.9 | 27 | SF | 4 | E | 42 | | F | |
| | SVTO | 18 1221 | 1222 | 1240 | N17 | W34 | 5536 | 06 | 15.9 | 19 | SF | 3 | E | 52 | | | |
| 0622 | | 18 12201 | 12211 | 1228 | S18 | W32 | 5533 | 06 | 16.1 | 8 | SF | | | 63 | | | |
| | RAMY | 18 1220 | 1221 | 1228 | S19 | W32 | 5533 | 06 | 16.1 | 8 | SF | 4 | E | 66 | | | |
| | SVTO | 18 1221 | 1222 | 1229 | S18 | W32 | 5533 | 06 | 16.1 | 8 | SF | 3 | E | 60 | | | |
| 0623 | RAMY | 18 1312 | 1312 | 1318 | N15 | W57 | 5528 | 06 | 14.2 | 6 | SF | 3 | E | | 15 | | F |
| 0624 | | 18 14401 | 14443 | 1506 | N12 | W30 | 5536 | 06 | 16.3 | 26 | SF | | | 52 | | FH | |
| | SVTO | 18 1440 | 1447 | 1506 | N12 | W31 | 5536 | 06 | 16.3 | 26 | SF | 3 | E | 47 | | | |
| | HOLL | 18 1441 | 1444 | 1508 | N13 | W30 | 5536 | 06 | 16.3 | 27 | SF | 3 | E | 61 | | F | |
| | RAMY | 18 1441 | 1447 | 1505 | N12 | W30 | 5536 | 06 | 16.3 | 24 | SF | 3 | E | 49 | | FH | |
| 0625 | | 18 16182 | 16204 | 1640 | N16 | W56 | 5528 | 06 | 14.4 | 22 | SN C 6.8 | | | 52 | | EFK | |
| | HOLL | 18 1618 | 1620 | 1640 | N16 | W56 | 5528 | 06 | 14.4 | 22 | SN C 6.8 | 3 | E | 64 | | FE | |
| | HOLL | 18 1618 | 1624 | 1640 | N16 | W56 | 5528 | 06 | 14.4 | 22 | SN C 6.8 | | E | 59 | | K | |
| | SVTO | 18 1619 | 1622 | 1645 | N15 | W57 | 5528 | 06 | 14.4 | 26 | SF C 6.8 | 3 | E | 45 | | F | |
| | RAMY | 18 1620 | 1620 | 1636 | N16 | W56 | 5528 | 06 | 14.4 | 16 | SF C 6.8 | 3 | E | 39 | | F | |
| 0626 | HOLL | 18 1751 | 1806 | 1839 | S18 | W28 | 5533 | 06 | 16.6 | 48 | SF | 3 | E | | 35 | | |
| 0627 | HOLL | 18 1900 | 1900 | 1920 | N20 | W60 | 5528 | 06 | 14.2 | 20 | SN M 1.0 | 3 | E | | 66 | | EF |
| 0628 | HOLL | 18 1902 | 1902 | 1919 | N26 | W69 | | 06 | 13.4 | 17 | SF | 3 | E | | 17 | | |
| | | 18 1924 | | 1944 | No Flare Patrol | | | | | | | | | | | | |
| | | 18 1957 | | 2006 | No Flare Patrol | | | | | | | | | | | | |
| | | 18 2013 | | 2033 | No Flare Patrol | | | | | | | | | | | | |
| | | 18 2112 | | 2125 | No Flare Patrol | | | | | | | | | | | | |
| 0629 | PALE | 18 2220 | 2220 | 2232 | N20 | W58 | 5528 | 06 | 14.5 | 12 | SF | 3 | E | | 25 | | |
| 0630 | URUM | 19 0032 | 0035 | 0050 | N18 | W61 | 5528 | 06 | 14.4 | 18 | SN | | C | | 16 | 0.4 | E |

36
Jun 89

Ha SOLAR FLARES

JUNE 1989

| Grp # | Sta | Start Day (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) |
| 0631 | | 19 00397 | 00485 | 0107 | N18 | W42 | 5536 | 06 15.8 | 28 | SN | | | | | 80 | 1.5 | E |
| | PURP | 19 0034E | 0048 | 0101 | N19 | W43 | 5536 | 06 15.7 | 27D | SN | | | C | 0048 | 91 | 1.3 | E |
| | LEAR | 19 0039 | 0050 | 0110 | N19 | W43 | 5536 | 06 15.7 | 31 | SF | | 3 | E | | 71 | | |
| | PALE | 19 0042E | 0048U | 0108 | N15 | W40 | 5536 | 06 16.0 | 26D | SF | | 3 | E | | 46 | | |
| | URUM | 19 0046 | 0053 | 0110 | N20 | W44 | 5536 | 06 15.7 | 24 | SN | | | C | | 113 | 1.7 | E |
| 0632 | | 19 0117* | 0119* | 0140 | N19 | W61 | 5528 | 06 14.4 | 23 | SN | | | | | 38 | 0.8 | DEF |
| | PURP | 19 0117E | 0119 | 0121 | N18 | W63 | 5528 | 06 14.2 | 4D | SN | | | C | 0119 | 20 | 0.5 | D |
| | URUM | 19 0117 | 0121 | 0125 | N19 | W61 | 5528 | 06 14.4 | 8 | SN | | | C | | 80 | 1.8 | E |
| | HOLL | 19 0118E | 0120U | 0134 | N21 | W56 | 5528 | 06 14.8 | 16D | SN | | 3 | E | | 42 | | F |
| | PURP | 19 0129 | 0134 | 0158 | N18 | W63 | 5528 | 06 14.3 | 29 | SF | | | C | 0134 | 14 | 0.3 | D |
| | URUM | 19 0150 | 0151 | 0200 | N18 | W62 | 5528 | 06 14.3 | 10 | SN | | | C | | 32 | 0.7 | D |
| 0633 | | 19 0134 | 01415 | 0158 | S14 | E36 | 5551 | 06 21.8 | 24 | SN | | | | | 47 | 0.6 | EG |
| | YUNN | 19 0134 | 0141 | 0200 | S13 | E35 | 5551 | 06 21.7 | 26 | SN | | | C | | 32 | 0.4 | E |
| | PURP | 19 0139E | 0146 | 0156 | S14 | E36 | 5551 | 06 21.8 | 17D | SN | | | C | 0146 | 62 | 0.8 | GE |
| 0634 | PURP | 19 0228 | 0245 | 0257 | S13 | E35 | 5551 | 06 21.7 | 29 | SF | | | C | 0245 | 65 | 0.8 | EG |
| 0635 | | 19 0250 | 0252 | 0256 | N18 | W62 | 5528 | 06 14.4 | 6 | SN | | | | | 52 | 1.2 | D |
| | PURP | 19 0249E | 0249U | 0257 | N18 | W63 | 5528 | 06 14.3 | 8D | SN | | | C | 0249 | 40 | 0.9 | D |
| | URUM | 19 0250 | 0252 | 0255 | N19 | W61 | 5528 | 06 14.5 | 5 | SN | | | C | | 64 | 1.4 | D |
| 0636 | ABST | 19 0432 | 0439 | 0445 | N25 | W51 | 5536B | 06 15.2 | 13 | SF | | | C | 0439 | 87 | 1.5 | D |
| 0637 | ABST | 19 0513 | 0514 | 0518 | S22 | E25 | 5542 | 06 21.1 | 5 | SF | | | C | 0514 | 87 | 1.1 | D |
| 0638 | | 19 0529* | 0540* | 0640 | N19 | W58 | 5528 | 06 14.8 | 71 | 1N M 2.5 | | | | | 154 | 3.9 | EFZ |
| | YUNN | 19 0529 | 0535U | 0645 | N17 | W62 | 5528 | 06 14.5 | 76 | 1N | | | P | 0535 | 161 | 3.6 | |
| | TACH | 19 0529 | 0545 | 0628 | N21 | W58 | 5528 | 06 14.8 | 59 | 2N | | 3 | C | 0545 | 260 | 5.4 | EZ |
| | ABST | 19 0531 | 0542 | 0640 | N16 | W60 | 5528 | 06 14.7 | 69 | 1N | | | C | 0542 | 174 | 3.8 | E |
| | LEAR | 19 0532 | 0540 | 0653D | N25 | W53 | 5528 | 06 15.1 | 81D | SN M 2.5 | 3 | E | | | 67 | | F |
| | SVTO | 19 0532 | 0558 | 0653 | N25 | W53 | 5528 | 06 15.1 | 81 | SN M 2.5 | 4 | E | | | 81 | | F |
| | ATHN | 19 0535E | 0542 | 0627 | N17 | W55 | 5528 | 06 15.0 | 52D | 1B | 3 | V | 0542 | 175 | 3.1 | | |
| | PURP | 19 0556 | 0607 | 0648 | N15 | W63 | 5528 | 06 14.5 | 52 | 1F | | | C | 0607 | 163 | 3.8 | |
| | | | | | | | | | | | | | | | | | |
| 0639 | | 19 0744 | 07462 | 0822 | S18 | E80 | 5552 | 06 25.4 | 38 | 1N M 3.1 | | | | | 127 | 8.2 | F |
| | YUNN | 19 0744 | 0746 | 0851 | S19 | E78 | 5552 | 06 25.3 | 67 | SN | | | C | | 48 | | |
| | SVTO | 19 0744 | 0748 | 0754 | S17 | E81 | 5552 | 06 25.5 | 10 | 1N M 3.1 | 3 | E | | 173 | | F | |
| | ATHN | 19 0747E | 0747 | 0748D | S17 | E80 | 5552 | 06 25.4 | 1D | 2B | 2 | V | 0747 | 159 | 8.2 | | |
| 0640 | | 19 08512 | 08531 | 0859 | N20 | W60 | 5528 | 06 14.8 | 8 | 1N | | | | | 57 | 2.2 | |
| | YUNN | 19 0851 | 0853 | 0900 | N18 | W62 | 5528 | 06 14.6 | 9 | 1N | | | C | | 96 | 2.2 | |
| | SVTO | 19 0853 | 0854 | 0858 | N21 | W59 | 5528 | 06 14.8 | 5 | SF | | 3 | E | | 18 | | |
| | | 19 1150 | | 1152 | No Flare Patrol | | | | | | | | | | | | |
| 0641 | HOLL | 19 1351 | 1353 | 1403 | N16 | W64 | 5528 | 06 14.7 | 12 | SF | | 3 | E | | 38 | | |
| 0642 | | 19 14351 | 1436 | 1443 | S17 | E74 | 5552 | 06 25.2 | 8 | SF | | | | | 53 | | |
| | RAMY | 19 1435 | 1436 | 1442 | S18 | E75 | 5552 | 06 25.3 | 7 | SF | | 3 | E | | 44 | | |
| | SVTO | 19 1435 | 1436 | 1443 | S16 | E73 | 5552 | 06 25.1 | 8 | SF | | 3 | E | | 44 | | |
| | HOLL | 19 1436 | 1436 | 1445 | S18 | E75 | 5552 | 06 25.3 | 9 | SF | | 3 | E | | 72 | | |
| 0643 | HOLL | 19 1542 | 1545 | 1551 | S18 | E74 | 5552 | 06 25.3 | 9 | SF | | 3 | E | | 21 | | |
| 0644 | HOLL | 19 1544 | 1548 | 1603 | N20 | E34 | 5544 | 06 22.2 | 19 | SF | | 3 | E | | 23 | | |
| 0645 | HOLL | 19 1603 | 1606 | 1612 | N18 | W69 | 5528 | 06 14.4 | 9 | SF | | 3 | E | | 22 | | |
| 0646 | HOLL | 19 1656 | 1656 | 1705 | N18 | W67 | 5528 | 06 14.6 | 9 | SF | | 3 | E | | 31 | | |
| 0647 | | 19 1723 | 1724 | 1733 | S18 | E70 | 5552 | 06 25.0 | 10 | SN | | | | | 40 | | HZ |
| | HOLL | 19 1723 | 1724 | 1733 | S17 | E73 | 5552 | 06 25.3 | 10 | SF | | 3 | E | | 26 | | |
| | HOLL | 19 1725E | 1726U | 1745D | S19 | E68 | 5552 | 06 24.9 | 20D | SN | | 3 | E | | 55 | | HZ |
| 0648 | RAMY | 19 1803E | 1804U | 1808 | N27 | E88 | 5555 | 06 26.6 | 5D | SF C 6.5 | 3 | E | | 103 | | H | |
| 0649 | HOLL | 19 2006 | 2008 | 2013 | S18 | W42 | 5533 | 06 16.6 | 7 | SF | | 3 | E | | 14 | | |

H α SOLAR FLARES

37
Jun 89

JUNE 1989

| Grp # | Sta | Start Day (UT) | Max (UT) | End (UT) | Lat | CMD | NOAA/ USAF Region | CMP Mo | Dur (Min) | Imp Opt | Xray | Obs See | Type | Area Measurement | | | Remarks | | |
|-------|------|----------------|----------|----------|-----|-----|-------------------------|-----------|--------------|------------|------|------------|------|------------------|----------------------|---------------|---------|-----|-----|
| | | | | | | | | | | | | | | Time (UT) | Apparent (10-6 Disk) | Corr (Sq Deg) | | | |
| | | 19 2034 | | 2039 | | | No Flare Patrol | | | | | | | | | | | | |
| 0650 | | 19 2138 | 2218 | 2237 | S17 | W40 | 5533 | 06 | 16.9 | 59 | 1N | M | 1.0 | | | 84 | | EK | |
| | HOLL | 19 2138 | 2158U | 2237 | S17 | W40 | 5533 | 06 | 16.9 | 59 | 1N | M | 1.0 | 3 | E | 120 | | E | |
| | HOLL | 19 2138 | 2218 | 2237 | S17 | W40 | 5533 | 06 | 16.9 | 59 | 1N | | | | E | 47 | | K | |
| 0651 | HOLL | 19 2154 | 2154 | 2158D | N28 | W36 | 5537 | 06 | 17.1 | 4D | SF | | | 3 | E | 48 | | | |
| | | 19 2159 | | 2210 | | | No Flare Patrol | | | | | | | | | | | | |
| 0652 | VORO | 19 2313 | 2324 | 2336 | N27 | W60 | 5536B | 06 | 15.3 | 23 | SF | | | 2 | C | 2324 | 72 | 1.5 | DIJ |
| 0653 | | 19 2342 | 2346I | 2354 | S24 | W36 | 5533 | 06 | 17.2 | 12 | SF | | | | | 78 | 1.8 | EI | |
| | VORO | 19 2342 | 2346 | 2354 | S24 | W36 | 5533 | 06 | 17.2 | 12 | SF | | | 2 | C | 2346 | 125 | 1.8 | EI |
| | HOLL | 19 2342 | 2347 | 2353 | S23 | W37 | 5533 | 06 | 17.1 | 11 | SF | | | 3 | E | 30 | | | |
| | | 20 0245 | | 0248 | | | No Flare Patrol | | | | | | | | | | | | |
| 0654 | YUNN | 20 0254 | 0259 | 0305 | N27 | W61 | 5528 | 06 | 15.4 | 11 | 1N | | | | C | 96 | 2.2 | | |
| 0655 | PALE | 20 0258 | 0259 | 0318 | N19 | W64 | 5528 | 06 | 15.2 | 20 | SF | | | 3 | E | 17 | | | |
| 0656 | URUM | 20 0420 | 0424 | 0434 | N18 | W79 | 5528 | 06 | 14.2 | 14 | SN | | | | C | 16 | | E | |
| 0657 | | 20 0612 | 0620 | 0643 | N18 | W79 | 5528 | 06 | 14.2 | 31 | SF | | | | | 36 | | D | |
| | HTPR | 20 0555E | | 0646 | N18 | W80 | 5528 | 06 | 14.1 | 51D | SF | | | | | 0622 | 30 | | |
| | BUCA | 20 0612 | 0620 | 0640 | N18 | W78 | 5528 | 06 | 14.3 | 28 | SF | | | | C | 0620 | 43 | D | |
| 0658 | ISTA | 20 0640E | | 0649 | N25 | E76 | 5555 | 06 | 26.2 | 9D | SN | | | | V | | | U | |
| 0659 | ISTA | 20 0700 | 0705 | 0715 | N19 | W76 | 5528 | 06 | 14.5 | 15 | SN | | | | V | | | D | |
| 0660 | HTPR | 20 0716 | 0717 | 0722 | S20 | E73 | 5552 | 06 | 25.9 | 6 | SB | | | | | 0717 | 60 | | |
| 0661 | ISTA | 20 0727 | 0730 | 0735 | S26 | E35 | 5553 | 06 | 23.0 | 8 | 1N | | | | V | | | FGI | |
| 0662 | | 20 0813A | 0816I | 0826 | S20 | E80 | 5556 | 06 | 26.5 | 13 | SN | C | 6.1 | | | 55 | | D | |
| | ISTA | 20 0813 | 0817 | 0824 | S20 | E78 | 5556 | 06 | 26.3 | 11 | SB | | | | V | | | D | |
| | YUNN | 20 0814 | 0816 | 0824D | S22 | E79 | 5556 | 06 | 26.4 | 10D | SN | | | | P | 64 | | | |
| | KAND | 20 0815 | 0816 | 0826 | S20 | E77 | 5556 | 06 | 26.2 | 11 | SN | | | | P | 0816 | 42 | D | |
| | SVTO | 20 0815 | 0817 | 0828 | S18 | E85 | 5556 | 06 | 26.8 | 13 | SN | C | 6.1 | 3 | E | 59 | | | |
| | KANZ | 20 0817 | 0817 | 0827 | S21 | E80 | 5556 | 06 | 26.5 | 10 | SN | | | | V | | | | |
| 0663 | URUM | 20 0905 | 0916 | 0934D | N12 | W83 | | 06 | 14.1 | 29D | 1F | | | | C | 177 | | A | |
| 0664 | HTPR | 20 0915 | 0918 | 0924 | S20 | E56 | 5568C | 06 | 24.7 | 9 | SF | | | | | 0918 | 40 | 0.8 | E |
| 0665 | URUM | 20 0921 | 0930 | 0934D | N26 | E81 | 5555 | 06 | 26.7 | 13D | 1N | | | | C | 80 | | D | |
| 0666 | CATA | 20 0936 | 0936 | 0941 | S19 | E68 | 5552 | 06 | 25.6 | 5 | SB | | | 2 | C | 0936 | 56 | | |
| 0667 | HTPR | 20 1000E | | 1401D | N17 | W80 | 5528 | 06 | 14.3 | 241D | SN | | | | | 1130 | 40 | | KT |
| 0668 | HTPR | 20 1130 | 1133 | 1143 | S18 | W48 | 5533 | 06 | 16.8 | 13 | SF | | | | | 1133 | 20 | 0.3 | |
| 0669 | HTPR | 20 1245 | 1248 | 1311 | S19 | W54 | 5533 | 06 | 16.4 | 26 | 1N | | | | | 1253 | 150 | 2.6 | EIK |
| 0670 | HTPR | 20 1252 | 1254 | 1300 | S18 | E90 | 5561 | 06 | 27.4 | 8 | 1N | | | | | 1254 | 80 | | A |
| 0671 | | 20 1340S | 1345I | 1412 | S18 | W55 | 5533 | 06 | 16.4 | 32 | SF | | | | | 56 | 1.4 | EFI | |
| | HTPR | 20 1340 | 1346 | 1417 | S19 | W55 | 5533 | 06 | 16.4 | 37 | SN | | | | | 1346 | 80 | 1.4 | EI |
| | SVTO | 20 1345 | 1345 | 1406 | S19 | W55 | 5533 | 06 | 16.4 | 21 | SF | | | 3 | E | 35 | | F | |
| | RAMY | 20 1347E | 1348U | 1414 | S18 | W55 | 5533 | 06 | 16.4 | 27D | SF | | | 2 | E | 48 | | | |
| | HOLL | 20 1350E | 1353U | 1410D | S18 | W56 | 5533 | 06 | 16.3 | 20D | SF | | | 2 | E | 60 | | F | |
| 0672 | HTPR | 20 1406E | | 1410 | N28 | E75 | 5555 | 06 | 26.4 | 4D | SN | | | | | 1406 | 50 | | |
| 0673 | HTPR | 20 1442 | 1448 | 1503 | N27 | E75 | 5555 | 06 | 26.4 | 21 | SN | | | | | 1448 | 50 | | EI |

38
Jun 89

H α SOLAR FLARES

JUNE 1989

| Grp # | Sta | Day | Start (UT) | Max (UT) | End (UT) | Lat | CMD | NOAA/ USAF Region | CHP Mo | Day | Dur (Min) | Imp Opt | Xray | Obs See | Type | Area Measurement | | | Remarks | |
|-------|------|-----|------------|----------|----------|-----------------|-----|-------------------------|-----------|------|--------------|------------|------|------------|------|------------------|----------------------|---------------|----------|--|
| | | | | | | | | | | | | | | | | Time (UT) | Apparent (10-6 Disk) | Corr (Sq Deg) | | |
| 0674 | | 20 | 1455 | 1458* | 1620 | N24 | W70 | 5528 | 06 | 15.2 | 85 | 3N | | | | 1458 | 615 | | AFIKUVYZ | |
| | HTPR | 20 | 1455 | 1458 | 1620 | N25 | W72 | 5528 | 06 | 15.0 | 85 | 3B | | | | | 600 | | AFIV | |
| | RAMY | 20 | 1455 | 1501 | 1630D | N24 | W68 | 5528 | 06 | 15.4 | 95D | 3N | 3 | E | | | 897 | | UF | |
| | SVTO | 20 | 1455 | 1503 | 1600D | N25 | W73 | 5528 | 06 | 15.0 | 65D | 2N | 2 | E | | | 455 | | ZY | |
| | RAMY | 20 | 1455 | 1508 | 1630D | N24 | W68 | 5528 | 06 | 15.4 | 95D | 3N | | E | | | 509 | | K | |
| | HOLL | 20 | 1504E | 1511U | 1651D | N24 | W68 | 5528 | 06 | 15.4 | 107D | 3B | 3 | E | | | | | U | |
| 0675 | | 20 | 1506* | 1524 | 1540 | S20 | E68 | 5552 | 06 | 25.8 | 34 | SN | | | | | 62 | 1.2 | E | |
| | HOLL | 20 | 1506 | 1524 | 1551 | S20 | E68 | 5552 | 06 | 25.8 | 45 | SF | 3 | E | | | 75 | | | |
| | HTPR | 20 | 1520 | 1524 | 1528 | S20 | E68 | 5552 | 06 | 25.8 | 8 | SN | | | | 1524 | 50 | 1.2 | E | |
| 0676 | HTPR | 20 | 1515 | 1519 | 1525 | N16 | E56 | 5567 | 06 | 24.9 | 10 | SF | | | | 1519 | 20 | 0.4 | | |
| 0677 | | 20 | 1509* | 1509* | 1610 | N16 | W62 | 5536 | 06 | 15.9 | 61 | SF | | | | | 26 | | EF | |
| | HOLL | 20 | 1509 | 1509 | 1610 | N16 | W64 | 5536 | 06 | 15.8 | 61 | SF | 3 | E | | | 27 | | E | |
| | RAMY | 20 | 1520 | 1526 | 1611 | N17 | W61 | 5536 | 06 | 16.0 | 51 | SF | 3 | E | | | 24 | | F | |
| 0678 | | 20 | 15589 | 1600* | 1614 | S17 | E69 | 5552 | 06 | 25.9 | 16 | SF | | | | | 35 | | F | |
| | HOLL | 20 | 1558 | 1600 | 1606 | S17 | E69 | 5552 | 06 | 25.9 | 8 | SF | 3 | E | | | 16 | | | |
| | HOLL | 20 | 1607 | 1611 | 1623 | S17 | E69 | 5552 | 06 | 25.9 | 16 | SF | 3 | E | | | 54 | | F | |
| 0679 | HOLL | 20 | 1610 | 1611 | 1619 | S25 | E65 | 5552 | 06 | 25.7 | 9 | SF | 3 | E | | | 16 | | | |
| 0680 | HOLL | 20 | 1725E | 1726U | 1745 | S19 | E68 | 5552 | 06 | 25.9 | 20D | SN M 1.5 | 3 | E | | | 55 | | HZ | |
| 0681 | RAMY | 20 | 1859E | 1900 | 1904 | N25 | E73 | 5555 | 06 | 26.4 | 5D | SF | 3 | E | | | 10 | | | |
| 0682 | | 20 | 2002 | 2019I | 2041 | S18 | W56 | 5533 | 06 | 16.6 | 39 | 1F M 1.1 | | | | | 93 | | F | |
| | PALE | 20 | 2002 | 2003U | 2027 | S16 | W55 | 5533 | 06 | 16.7 | 25 | SF | 2 | E | | | 16 | | | |
| | HOLL | 20 | 2012E | 2020 | 2047 | S18 | W54 | 5533 | 06 | 16.7 | 35D | 1F M 1.1 | 3 | E | | | 141 | | | |
| | RAMY | 20 | 2019E | 2019 | 2049 | S19 | W60 | 5533 | 06 | 16.3 | 30D | 1F | 3 | E | | | 122 | | F | |
| 0683 | HOLL | 20 | 2029 | 2029 | 2036 | S16 | E73 | 5556 | 06 | 26.4 | 7 | SF | 3 | E | | | 25 | | | |
| 0684 | | 20 | 2153 | 2212 | 2315 | N17 | W82 | 5528 | 06 | 14.7 | 82 | 1N M 9.3 | | | | | 105 | | DIJKY | |
| | VORO | 20 | 2153 | 2212 | 2309D | N16 | W80 | 5528 | 06 | 14.8 | 76D | 2N | 2 | C | | 2212 | 125 | | DIJKY | |
| | PALE | 20 | 2201E | 2208U | 2315 | N18 | W81 | 5528 | 06 | 14.7 | 74D | 1N M 9.3 | 3 | E | | | 116 | | Y | |
| | HOLL | 20 | 2204E | 2207U | 2208D | N17 | W84 | 5528 | 06 | 14.5 | 4D | SN M 9.3 | 1 | E | | | 74 | | | |
| 0685 | VORO | 20 | 2232 | 2234 | 2242 | N27 | W72 | 5528 | 06 | 15.3 | 10 | SF | 2 | C | | 2234 | 45 | | DIJ | |
| 0686 | YUNN | 21 | 0040E | 0040U | 0040D | S19 | E57 | 5552 | 06 | 25.4 | 10D | SN | | P | | 0040 | 64 | 1.3 | | |
| | | 21 | 0109 | | 0127 | No Flare Patrol | | | | | | | | | | | | | | |
| 0687 | LEAR | 21 | 0142 | 0142 | 0156 | S18 | E56 | 5552 | 06 | 25.3 | 14 | SF M 1.7 | 3 | E | | | 28 | | H | |
| | | 21 | 0233 | | 0303 | No Flare Patrol | | | | | | | | | | | | | | |
| | | 21 | 0326 | | 0340 | No Flare Patrol | | | | | | | | | | | | | | |
| | | 21 | 0354 | | 0406 | No Flare Patrol | | | | | | | | | | | | | | |
| 0688 | ABST | 21 | 0423 | 0425 | 0428 | N26 | E69 | 5555 | 06 | 26.5 | 5 | 1F | | C | | 0425 | 87 | | D | |
| 0689 | | 21 | 04364 | 0438* | 0502 | S17 | E57 | 5552 | 06 | 25.5 | 26 | 1N M 1.4 | | | | | 215 | 5.3 | EZ | |
| | TACH | 21 | 0436 | 0438 | 0503 | S16 | E55 | 5552 | 06 | 25.4 | 27 | 2N | 3 | C | | 0438 | 449 | 8.2 | EZ | |
| | ABST | 21 | 0440 | 0450 | 0503 | S17 | E54 | 5552 | 06 | 25.3 | 23 | 1N | | C | | 0450 | 192 | 3.4 | E | |
| | LEAR | 21 | 0446E | 0452U | 0453D | S19 | E60 | 5552 | 06 | 25.8 | 7D | SF M 1.4 | 1 | E | | | 86 | | | |
| | SVTO | 21 | 0447E | 0451U | 0503 | S19 | E61 | 5552 | 06 | 25.8 | 16D | 1N M 1.4 | 2 | E | | | 105 | | | |
| | URUM | 21 | 0452E | 0452 | 0501 | S16 | E53 | 5552 | 06 | 25.2 | 9D | 1B | | C | | | 241 | 4.4 | E | |
| 0690 | | 21 | 04396 | 0441* | 0501 | S20 | E88 | 5561 | 06 | 27.9 | 22 | 1B | | | | | 126 | | D | |
| | TACH | 21 | 0439 | 0441 | 0505 | S19 | E86 | 5561 | 06 | 27.7 | 26 | 1B | 3 | C | | 0441 | 156 | | D | |
| | ABST | 21 | 0445 | 0453 | 0457 | S21 | E90 | 5561 | 06 | 28.1 | 12 | 1N | | C | | 0453 | 96 | | D | |
| 0691 | ABST | 21 | 0531 | 0533 | 0534D | N25 | E70 | 5555 | 06 | 26.6 | 3D | 1F | | P | | 0533 | 87 | | D | |

H α SOLAR FLARES

JUNE 1989

| Grp # | Sta | Day | Start (UT) | Max (UT) | End (UT) | Lat | CMD | NOAA/ USAF Region | CMP Mo | Dur Day | Imp (Min) | Xray | Obs See | Type | Area Measurement | | | Remarks |
|-------|------|-----|------------|----------|----------|-----------------|-----|-------------------------|-----------|------------|--------------|----------|------------|------|------------------|----------------------|---------------|---------|
| | | | | | | | | | | | | | | | Time (UT) | Apparent (10-6 Disk) | Corr (Sq Deg) | |
| 0692 | | 21 | 0746* | 08045 | 0834 | N27 | E66 | 5555 | 06 | 26.5 | 48 | SN | | | | 76 | | DE |
| | PURP | 21 | 0746 | 0804 | 0838 | N27 | E67 | 5555 | 06 | 26.5 | 52 | SF | | C | 0804 | 48 | | |
| | SVTO | 21 | 0802 | 0805U | 0849 | N28 | E67 | 5555 | 06 | 26.6 | 47 | SN | 1 | E | | 69 | | |
| | KAND | 21 | 0804 | 0806 | 0815 | N27 | E68 | 5555 | 06 | 26.6 | 11 | SN | | P | 0806 | 42 | | D |
| | KANZ | 21 | 0804E | 0806 | 0835D | N25 | E63 | 5555 | 06 | 26.2 | 31D | SF | | C | | | | |
| | URUM | 21 | 0806E | 0809 | 0836 | N27 | E66 | 5555 | 06 | 26.5 | 30D | 1B | | C | | 145 | | E |
| 0693 | | 21 | 0957 | 1012 | 1030 | N26 | E65 | 5555 | 06 | 26.5 | 33 | 1B | | | | 100 | 1.6 | DEKT |
| | HTPR | 21 | 0937E | | 1116D | N27 | E66 | 5555 | 06 | 26.5 | 99D | SB | | | 1058 | 70 | 1.6 | EKT |
| | URUM | 21 | 0957 | 1012 | 1030 | N26 | E64 | 5555 | 06 | 26.4 | 33 | 1N | | C | | 129 | | D |
| 0694 | HTPR | 21 | 0937E | | 1032 | S17 | E52 | 5552 | 06 | 25.3 | 55D | SN | | | 0947 | 80 | 1.3 | EI |
| 0695 | | 21 | 1125 | 1137 | 1336 | N28 | E62 | 5555 | 06 | 26.3 | 131 | 1N M 1.9 | | | | 145 | 4.2 | EFI |
| | SVTO | 21 | 1125 | 1137 | 1332 | N27 | E60 | 5555 | 06 | 26.1 | 127 | SN M 1.9 | 3 | E | | 99 | | |
| | HTPR | 21 | 1130E | | 1137D | N27 | E66 | 5555 | 06 | 26.6 | 7D | SB | | | 1135 | 80 | 1.8 | E |
| | CATA | 21 | 1131E | 1137 | 1140D | N31 | E59 | 5555 | 06 | 26.1 | 9D | 2B | 1 | P | 1137 | 394 | 8.9 | |
| | HTPR | 21 | 1146E | | 1338D | N27 | E65 | 5555 | 06 | 26.5 | 112D | SB | | | 1233 | 80 | 1.8 | EFI |
| | RAMY | 21 | 1310E | 1321U | 1339 | N28 | E61 | 5555 | 06 | 26.3 | 29D | SF | 2 | E | | 70 | | F |
| 0696 | | 21 | 12514 | 12552 | 1307 | S17 | E52 | 5552 | 06 | 25.5 | 16 | SB | | | | 20 | 0.4 | |
| | HTPR | 21 | 1251 | 1255 | 1304 | S17 | E47 | 5552 | 06 | 25.1 | 13 | SN | | | 1255 | 20 | 0.3 | |
| | HTPR | 21 | 1255 | 1257 | 1310 | S17 | E57 | 5552 | 06 | 25.9 | 15 | SB | | | 1257 | 20 | 0.4 | |
| 0697 | SVTO | 21 | 1321 | 1323 | 1326 | S16 | E87 | 5563 | 06 | 28.1 | 5 | SF | 3 | E | | 27 | | |
| 0698 | HTPR | 21 | 1400 | 1406 | 1410 | S16 | E46 | 5552 | 06 | 25.1 | 10 | SF | | | 1406 | 20 | 0.3 | |
| 0699 | | 21 | 1530 | 1538 | 1543 | N28 | E64 | 5555 | 06 | 26.6 | 13 | SN | | | | 56 | 0.7 | E |
| | RAMY | 21 | 1445E | 1445U | 1544 | N28 | E64 | 5555 | 06 | 26.6 | 59D | SF | 2 | E | | 83 | | |
| | HTPR | 21 | 1530 | 1538 | 1542 | N27 | E64 | 5555 | 06 | 26.6 | 12 | SN | | | 1538 | 30 | 0.7 | E |
| 0700 | HOLL | 21 | 1524E | 1631U | 1701 | N20 | E92 | 5559 | 06 | 28.7 | 97D | SN | 3 | E | | 84 | | EF |
| 0701 | | 21 | 1606 | 1632 | 1744 | N27 | E62 | 5555 | 06 | 26.5 | 98 | 1N | | | | 108 | 2.5 | EFI |
| | RAMY | 21 | 1547E | 1649U | 1707D | N27 | E60 | 5555 | 06 | 26.3 | 80D | SF | 1 | E | | 96 | | F |
| | HTPR | 21 | 1606 | 1632 | 1744 | N27 | E63 | 5555 | 06 | 26.6 | 98 | 1B | | | 1728 | 120 | 2.5 | EI |
| 0702 | HTPR | 21 | 1645 | 1652 | 1658 | S17 | E48 | 5552 | 06 | 25.3 | 13 | SB | | | 1652 | 40 | 0.6 | |
| 0703 | | 21 | 1701E | 1704* | 1802 | N26 | E60 | 5555 | 06 | 26.4 | 61D | 1N M 3.0 | | | | 129 | | FK |
| | HOLL | 21 | 1701E | 1704 | 1802 | N26 | E60 | 5555 | 06 | 26.4 | 61D | 1F | | E | | 157 | | K |
| | HOLL | 21 | 1701E | 1726 | 1802 | N26 | E60 | 5555 | 06 | 26.4 | 61D | 1N M 3.0 | 3 | E | | 101 | | F |
| 0704 | HOLL | 21 | 1812 | 1815 | 1834 | N21 | E04 | 5544 | 06 | 22.1 | 22 | SF | 3 | E | | 26 | | |
| 0705 | | 21 | 1834* | 1835* | 1925 | N26 | E60 | 5555 | 06 | 26.4 | 51 | SN M 1.1 | | | | 46 | | FK |
| | HOLL | 21 | 1834 | 1835 | 1844 | N26 | E61 | 5555 | 06 | 26.5 | 10 | SF | 3 | E | | 23 | | |
| | PALE | 21 | 1834 | 1922 | 1933 | N26 | E61 | 5555 | 06 | 26.5 | 59 | SF | 3 | E | | 67 | | F |
| | HOLL | 21 | 1849 | 1851 | 1937 | N26 | E59 | 5555 | 06 | 26.4 | 48 | SN M 1.1 | 3 | E | | 40 | | F |
| | HOLL | 21 | 1849 | 1906 | 1937 | N26 | E59 | 5555 | 06 | 26.4 | 48 | SB | | E | | 35 | | K |
| | PALE | 21 | 1908E | 1922 | 1933 | N26 | E61 | 5555 | 06 | 26.5 | 25D | SF | 3 | E | | 67 | | F |
| 0706 | HOLL | 21 | 1916 | 1922 | 1935 | S22 | E80 | 5561 | 06 | 27.9 | 19 | SF | 3 | E | | 29 | | |
| 0707 | HOLL | 21 | 1949 | 2009 | 2028 | N26 | E59 | 5555 | 06 | 26.4 | 39 | SN | 3 | E | | 35 | | EF |
| 0708 | HOLL | 21 | 2016 | 2016 | 2018D | S06 | W28 | 5541 | 06 | 19.7 | 2D | SF | 3 | E | | 17 | | |
| | | 21 | 2041 | | 2052 | No Flare Patrol | | | | | | | | | | | | |
| 0709 | HOLL | 21 | 2054E | 2108 | 2123 | N27 | E59 | 5555 | 06 | 26.5 | 29D | SN C 6.6 | 3 | E | | 44 | | |
| | | 21 | 2143 | | 2152 | No Flare Patrol | | | | | | | | | | | | |
| 0710 | HOLL | 21 | 2212 | 2213 | 2220 | N26 | E58 | 5555 | 06 | 26.4 | 8 | SN | 3 | E | | 29 | | |
| 0711 | HOLL | 21 | 2229 | 2235 | 2241 | N26 | E58 | 5555 | 06 | 26.4 | 12 | SF | 3 | E | | 13 | | F |

40
Jun 89

H α SOLAR FLARES

JUNE 1989

| Grp # | 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) | | |
| 0712 | | 21 | 2307* | 2330* | 2406 | N26 | E57 | 5555 | 06 26.4 | 59 | 1F | | | 71 | 2.4 | E | |
| | PURP | 21 | 2307 | 2330 | 2401 | N28 | E58 | 5555 | 06 26.5 | 54 | 1F | | C | 2330 | 110 | 2.4 | E |
| | LEAR | 21 | 2355 | 2408 | 2410 | N25 | E56 | 5555 | 06 26.3 | 15 | SF | 3 | E | | 32 | | |
| 0713 | | 22 | 0105 | 0112 | 0120 | N27 | E55 | 5555 | 06 26.3 | 15 | SF | | | 46 | 1.2 | | |
| | LEAR | 22 | 0105 | 0112 | 0122 | N26 | E54 | 5555 | 06 26.2 | 17 | SF | 3 | E | | 34 | | |
| | PURP | 22 | 0110E | 0110U | 0119 | N28 | E56 | 5555 | 06 26.4 | 9D | SF | | C | 0110 | 57 | 1.2 | |
| 0714 | | 22 | 0127 | 0138 | 0216 | N25 | E56 | 5555 | 06 26.4 | 49 | SF | | | 45 | | F | |
| | LEAR | 22 | 0127 | 0138 | 0216 | N25 | E55 | 5555 | 06 26.3 | 49 | SF | 3 | E | | 58 | | F |
| | HOLL | 22 | 0138E | 0141U | 0149D | N25 | E56 | 5555 | 06 26.4 | 11D | SF | 2 | E | | 32 | | |
| 0715 | URUM | 22 | 0259 | 0309 | 0324 | N28 | E54 | 5555 | 06 26.3 | 25 | SN | | C | | 96 | 1.9 | E |
| 0716 | | 22 | 04047 | 04069 | 0425 | S16 | E18 | 5549 | 06 23.5 | 21 | SN | | | 70 | 0.8 | DE | |
| | TACH | 22 | 0404 | 0406 | 0422 | S18 | E18 | 5549 | 06 23.5 | 18 | SN | 3 | C | 0406 | 92 | 1.0 | D |
| | URUM | 22 | 0411 | 0415 | 0428 | S15 | E19 | 5549 | 06 23.6 | 17 | SN | | C | | 48 | 0.5 | E |
| 0717 | | 22 | 0402* | 0404* | 0434 | N26 | E52 | 5555 | 06 26.2 | 32 | SN | | | 94 | 2.1 | DEF | |
| | TACH | 22 | 0402 | 0404 | 0422 | N26 | E50 | 5555 | 06 26.0 | 20 | SB | 3 | C | 0404 | 102 | 1.8 | E |
| | ABST | 22 | 0412 | 0416 | 0425 | N27 | E52 | 5555 | 06 26.2 | 13 | SF | | C | 0416 | 96 | 1.7 | D |
| | LEAR | 22 | 0413 | 0414 | 0434 | N26 | E51 | 5555 | 06 26.1 | 21 | SF | 3 | E | | 33 | | |
| | URUM | 22 | 0414 | 0437 | 0457 | N27 | E55 | 5555 | 06 26.5 | 43 | 1N | | C | | 145 | 2.8 | F |
| 0718 | ABST | 22 | 0412 | 0414 | 0426 | S15 | E90 | 5563 | 06 29.0 | 14 | SF | | C | 0414 | 105 | | E |
| 0719 | SVTO | 22 | 0600 | 0606 | 0750 | N29 | E53 | 5555 | 06 26.4 | 110 | SF | | 3 | E | 90 | | |
| 0720 | | 22 | 06291 | 06302 | 0637 | S18 | E71 | 5561 | 06 27.7 | 8 | SF C 4.2 | | | 32 | | D | |
| | SVTO | 22 | 0629 | 0630 | 0637 | S16 | E70 | 5561 | 06 27.6 | 8 | SF C 4.2 | 3 | E | | 17 | | |
| | ABST | 22 | 0629 | 0632 | 0637 | S20 | E75 | 5561 | 06 28.0 | 8 | SF | | C | 0632 | 61 | | D |
| | LEAR | 22 | 0630 | 0631 | 0636 | S19 | E69 | 5561 | 06 27.5 | 6 | SF C 4.2 | 3 | E | | 18 | | |
| 0721 | | 22 | 0623* | 0634* | 0712 | N26 | E50 | 5555 | 06 26.1 | 49 | SF | | | 95 | 2.2 | DEFKZ | |
| | LEAR | 22 | 0623 | 0635 | 0730 | N26 | E50 | 5555 | 06 26.1 | 67 | SF | | E | 48 | | K | |
| | LEAR | 22 | 0623 | 0650 | 0730 | N26 | E50 | 5555 | 06 26.1 | 67 | SF | 3 | E | 36 | | ZF | |
| | ABST | 22 | 0632 | 0634 | 0640 | N25 | E51 | 5555 | 06 26.2 | 8 | SN | | C | 0634 | 114 | 2.0 | D |
| | URUM | 22 | 0633 | 0642 | 0706 | N27 | E51 | 5555 | 06 26.2 | 33 | 1N | | C | | 177 | 3.2 | F |
| | BUCA | 22 | 0635 | 0635U | 0705D | N27 | E49 | 5555 | 06 26.1 | 30D | SF | | P | 0635 | 107 | 1.9 | E |
| | ABST | 22 | 0646 | 0652 | 0711D | N25 | E51 | 5555 | 06 26.2 | 25D | SF | | P | 0652 | 87 | 1.5 | DK |
| 0722 | LEAR | 22 | 0635 | 0635 | 0650 | S19 | E26 | 5549 | 06 24.2 | 15 | SF | 3 | E | | 12 | | F |
| 0723 | URUM | 22 | 0707 | 0711 | 0743 | N26 | E50 | 5555 | 06 26.2 | 36 | 1N | | C | | 129 | 2.3 | E |
| 0724 | LEAR | 22 | 0715 | 0715 | 0719 | N16 | E77 | 5559 | 06 28.1 | 4 | SF | 3 | E | | 15 | | |
| 0725 | SVTO | 22 | 0911 | 0913 | 0930 | S17 | E46 | 5552 | 06 25.9 | 19 | SF | | 3 | E | 33 | | |
| 0726 | | 22 | 09121 | 09151 | 0926 | S16 | E37 | 5552 | 06 25.2 | 14 | SN C 3.8 | | | 38 | 0.7 | E | |
| | LEAR | 22 | 0912 | 0916 | 0925 | S16 | E36 | 5552 | 06 25.1 | 13 | SF C 3.8 | 3 | E | | 27 | | |
| | URUM | 22 | 0913 | 0915 | 0927 | S16 | E38 | 5552 | 06 25.3 | 14 | SN | | C | | 48 | 0.7 | E |
| 0727 | URUM | 22 | 0916 | 0924 | 0958 | N27 | E49 | 5555 | 06 26.2 | 42 | SF | | C | | 113 | 1.9 | E |
| 0728 | | 22 | 1114 | 1115 | 1120 | N26 | E50 | 5555 | 06 26.3 | 6 | SF C 4.1 | | | 38 | | | |
| | SVTO | 22 | 1114 | 1115 | 1120 | N29 | E49 | 5555 | 06 26.3 | 6 | SF | 3 | E | | 16 | | |
| | RAMY | 22 | 1117E | 1124U | 1310D | N24 | E51 | 5555 | 06 26.4 | 113D | SF C 4.1 | 3 | E | | 60 | | |
| 0729 | | 22 | 1200 | 1213 | 1223 | N26 | E48 | 5555 | 06 26.2 | 23 | SF | | | 30 | | | |
| | SVTO | 22 | 1200 | 1213 | 1223 | N26 | E49 | 5555 | 06 26.3 | 23 | SF | 3 | E | | 30 | | |
| | KANZ | 22 | 1201E | 1215U | 1215D | N27 | E47 | 5555 | 06 26.2 | 14D | SF | | C | | | | |
| 0730 | | 22 | 12132 | 1214 | 1216 | S17 | E35 | 5552 | 06 25.2 | 3 | SF | | | 17 | | | |
| | SVTO | 22 | 1213 | 1214 | 1216 | S16 | E36 | 5552 | 06 25.2 | 3 | SF | 3 | E | | 17 | | |
| | KANZ | 22 | 1215 | | 1215D | S18 | E34 | 5552 | 06 25.1 | 3D | SF | | C | | | | |
| 0731 | HOLL | 22 | 1242E | 1244U | 1255 | N26 | E50 | 5555 | 06 26.4 | 13D | SF | 1 | E | | 30 | | FH |

H α SOLAR FLARES

41
Jun 89

JUNE 1989

| Grp # | 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) | | |
| 0732 | | 22 | 1353* | 14369 | 1550 | N26 | E48 | 5555 | 06 26.3 | 117 | SN | C 6.7 | | | 62 | | FK |
| | RAMY | 22 | 1353 | 1436 | 1619 | N25 | E46 | 5555 | 06 26.1 | 146 | SN | | E | | 78 | | K |
| | RAMY | 22 | 1353 | 1445 | 1619 | N25 | E46 | 5555 | 06 26.1 | 146 | SN | C 6.7 | 3 E | | 58 | | |
| | HOLL | 22 | 1444 | 1445 | 1520 | N27 | E50 | 5555 | 06 26.5 | 36 | SN | C 8.4 | 3 E | | 47 | | |
| | SVTO | 22 | 1444 | 1445 | 1520 | N29 | E48 | 5555 | 06 26.4 | 36 | SN | | 2 E | | 64 | | F |
| 0733 | | 22 | 15391 | 15401 | 1601 | N23 | W09 | 5544 | 06 21.9 | 22 | SF | | | | 31 | | |
| | HOLL | 22 | 1539 | 1541 | 1605 | N21 | W08 | 5544 | 06 22.0 | 26 | SF | | 3 E | | 36 | | |
| | SVTO | 22 | 1540 | 1540 | 1600 | N23 | W09 | 5544 | 06 21.9 | 20 | SF | | 3 E | | 36 | | |
| | RAMY | 22 | 1540 | 1541 | 1557 | N25 | W09 | 5544 | 06 21.9 | 17 | SF | | 3 E | | 21 | | |
| 0734 | HOLL | 22 | 1653 | 1710 | 1734 | S19 | E38 | 5552 | 06 25.6 | 41 | SF | | 3 E | | 34 | | |
| 0735 | HOLL | 22 | 1808 | 1818 | 1821 | S16 | E77 | 5563 | 06 28.6 | 13 | SF | | 3 E | | 19 | | |
| 0736 | HOLL | 22 | 1900 | 1902 | 1909 | S16 | E77 | 5563 | 06 28.6 | 9 | SF | | 3 E | | 24 | | |
| 0737 | | 22 | 1858 | 1900* | 1949 | N22 | E74 | 5565 | 06 28.5 | 51 | SN | | | | 18 | | K |
| | HOLL | 22 | 1858 | 1900 | 1949 | N21 | E72 | 5565 | 06 28.3 | 51 | SF | | 3 E | | 16 | | |
| | HOLL | 22 | 1858 | 1923 | 1949 | N21 | E72 | 5565 | 06 28.3 | 51 | SB | | E | | 25 | | K |
| | RAMY | 22 | 1917E | 1917U | 1953D | N24 | E79 | 5565 | 06 28.9 | 36D | SF | | 1 E | | 14 | | |
| 0738 | HOLL | 22 | 1944 | 1944 | 1947 | S16 | E79 | 5563 | 06 28.8 | 3 | SF | | 3 E | | 12 | | |
| 0739 | HOLL | 22 | 1956 | 1956 | 2002 | N21 | E63 | 5559 | 06 27.7 | 6 | SF | | 3 E | | 19 | | |
| 0740 | HOLL | 22 | 2036 | 2047 | 2059 | N21 | E62 | 5559 | 06 27.6 | 23 | SF | | 3 E | | 20 | | |
| 0741 | HOLL | 22 | 2047 | 2047 | 2101 | S20 | E60 | 5561 | 06 27.4 | 14 | SF | | 3 E | | 29 | | F |
| 0742 | HOLL | 22 | 2121 | 2123 | 2127 | N26 | E45 | 5555 | 06 26.4 | 6 | SF | | 3 E | | 25 | | |
| 0743 | HOLL | 22 | 2124 | 2125 | 2143 | N22 | E76 | 5565 | 06 28.7 | 19 | SF | C 7.8 | 3 E | | 22 | | |
| 0744 | HOLL | 22 | 2217 | 2222 | 2231 | S20 | E58 | 5561 | 06 27.4 | 14 | SF | | 3 E | | 24 | | |
| 0745 | | 22 | 2307 | 2308 | 2316 | N26 | E42 | 5555 | 06 26.2 | 9 | SF | C 3.6 | | | 46 | 1.1 | DIJT |
| | HOLL | 22 | 2307 | 2308 | 2316 | N26 | E41 | 5555 | 06 26.1 | 9 | SF | C 3.6 | 3 E | | 21 | | |
| | VORO | 22 | 2307 | 2308 | 2316 | N27 | E43 | 5555 | 06 26.3 | 9 | SF | | 2 C | 2308 | 72 | 1.1 | DIJT |
| 0746 | | 22 | 2310 | 2312 | 2321 | S14 | E30 | 5552 | 06 25.2 | 11 | SN | | | | 54 | 0.7 | DIJT |
| | VORO | 22 | 2310 | 2312 | 2323 | S14 | E30 | 5552 | 06 25.2 | 13 | SF | | 2 C | 2312 | 81 | 1.0 | DIJT |
| | PURP | 22 | 2312E | 2315U | 2319 | S15 | E30 | 5552 | 06 25.2 | 7D | SN | | C | 2315 | 28 | 0.4 | D |
| 0747 | HOLL | 22 | 2345 | 2346 | 2353 | N27 | E43 | 5555 | 06 26.3 | 8 | SF | C 3.3 | 3 E | | 24 | | |
| 0748 | | 23 | 0007* | 0012* | 0045 | N27 | E41 | 5555 | 06 26.2 | 38 | SF | C 3.1 | | | 56 | 1.2 | DEIJKTUZ |
| | PURP | 23 | 0007 | 0012U | 0018 | N28 | E44 | 5555 | 06 26.4 | 11 | SN | | C | 0012 | 55 | 0.9 | |
| | VORO | 23 | 0008 | 0012 | 0019 | N27 | E43 | 5555 | 06 26.3 | 11 | SF | | 2 C | 0012 | 81 | 1.3 | DIJT |
| | HOLL | 23 | 0011 | 0012 | 0017 | N25 | E40 | 5555 | 06 26.1 | 6 | SF | C 3.1 | 3 E | | 14 | | |
| | URUM | 23 | 0026 | 0028 | 0030 | N26 | E41 | 5555 | 06 26.2 | 4 | SN | | C | | 32 | 0.5 | E |
| | VORO | 23 | 0036 | 0042 | 0116 | N28 | E40 | 5555 | 06 26.1 | 40 | SF | | 2 C | 0042 | 99 | 1.4 | EIJTZ |
| | URUM | 23 | 0038 | 0039 | 0047 | N28 | E41 | 5555 | 06 26.2 | 9 | SN | | C | | 113 | 1.7 | U |
| | HOLL | 23 | 0039 | 0041 | 0116 | N28 | E41 | 5555 | 06 26.2 | 37 | SF | | E | | 30 | | K |
| | HOLL | 23 | 0039 | 0100 | 0116 | N28 | E41 | 5555 | 06 26.2 | 37 | SF | C 3.8 | 3 E | | 25 | | |
| | 0749 | LEAR | 23 | 0022 | 0025 | 0100 | S16 | E72 | 5563 | 06 28.5 | 38 | SF | | 3 E | | 59 | |
| 0750 | LEAR | 23 | 0025 | 0028 | 0037 | N22 | E70 | 5565 | 06 28.4 | 12 | SF | | 3 E | | 37 | | |
| 0751 | VORO | 23 | 0054 | 0057 | 0117 | S21 | W48 | | 06 19.3 | 23 | SF | | 2 C | 0057 | 134 | 2.0 | D |
| 0752 | LEAR | 23 | 0108 | 0114 | 0121 | N22 | E71 | 5565 | 06 28.5 | 13 | SF | | 3 E | | 13 | | |
| 0753 | LEAR | 23 | 0124 | 0134 | 0136 | N22 | E71 | 5565 | 06 28.5 | 12 | SF | | 3 E | | 22 | | |
| 0754 | URUM | 23 | 0125 | 0138 | 0200 | N27 | E42 | 5555 | 06 26.3 | 35 | SN | | C | | 129 | 2.0 | E |

H α SOLAR FLARES

JUNE 1989

| Grp # | 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 Time (UT) | Apparent (10-6 Disk) | Corr (Sq Deg) | Remarks |
|-------|------|-----|------------|----------|----------|-----|-----|-------------------------|---------------|--------------|-----------------|-----------------|-------------------------------|-------------------------|------------------|---------|
| | | | | | | | | | | | | | | | | |
| 0755 | | 23 | 02152 | 02183 | 0226 | N26 | E42 | 5555 | 06 26.3 | 11 | SF C 3.8 | | | 74 | 1.6 | EF |
| | PURP | 23 | 0215 | 0219 | 0225 | N27 | E41 | 5555 | 06 26.3 | 10 | SF | P | 0219 | 78 | 1.2 | E |
| | PALE | 23 | 0216 | 0218 | 0224 | N25 | E43 | 5555 | 06 26.4 | 8 | SF C 3.8 | 3 | | 44 | | F |
| | URUM | 23 | 0216 | 0221 | 0235 | N26 | E41 | 5555 | 06 26.3 | 19 | 1N | C | | 145 | 2.1 | E |
| | LEAR | 23 | 0217 | 0218 | 0221 | N26 | E41 | 5555 | 06 26.3 | 4 | SF C 3.8 | 3 | | 30 | | |
| 0756 | | 23 | 0327* | 0329* | 0408 | N28 | E42 | 5555 | 06 26.4 | 41 | SN | | | 73 | 1.2 | DE |
| | PURP | 23 | 0327 | 0329 | 0339 | N27 | E38 | 5555 | 06 26.1 | 12 | SN | C | 0329 | 44 | 0.6 | E |
| | URUM | 23 | 0332 | 0339 | 0444 | N26 | E41 | 5555 | 06 26.3 | 72 | SN | C | | 64 | 1.0 | E |
| | URUM | 23 | 0352 | 0359 | 0405 | N30 | E46 | 5555 | 06 26.8 | 13 | SN | C | | 113 | 1.9 | D |
| | PURP | 23 | 0354 | 0359 | 0404 | N29 | E44 | 5555 | 06 26.6 | 10 | SN | C | 0359 | 71 | 1.1 | E |
| 0757 | | 23 | 0453 | 04532 | 0502 | N26 | E41 | 5555 | 06 26.4 | 9 | SN | | | 36 | 0.8 | D |
| | ABST | 23 | 0452E | 0455 | 0459 | N25 | E41 | 5555 | 06 26.4 | 70 | SN | P | 0455 | 61 | 0.8 | D |
| | SVTO | 23 | 0453 | 0453 | 0504 | N27 | E41 | 5555 | 06 26.4 | 11 | SF | 3 | | 11 | | |
| 0758 | | 23 | 04561 | 04589 | 0517 | S15 | E27 | 5552 | 06 25.2 | 21 | SF | | | 56 | 1.0 | DE |
| | PURP | 23 | 0456 | 0504 | 0513 | S15 | E28 | 5552 | 06 25.3 | 17 | SN | C | 0504 | 42 | 0.5 | D |
| | SVTO | 23 | 0456 | 0507 | 0522 | S14 | E27 | 5552 | 06 25.2 | 26 | SF | 3 | | 19 | | |
| | LEAR | 23 | 0457 | 0458 | 0516 | S16 | E27 | 5552 | 06 25.2 | 19 | SF | 3 | | 31 | | |
| | ABST | 23 | 0457 | 0500 | 0527D | S15 | E26 | 5552 | 06 25.2 | 30D | SF | P | 0500 | 131 | 1.6 | E |
| 0759 | LEAR | 23 | 0523 | 0535 | 0550 | N24 | E71 | 5565 | 06 28.7 | 27 | SF C 3.7 | 3 | | 16 | | |
| 0760 | ABST | 23 | 0637 | 0642 | 0647D | N25 | E69 | 5565 | 06 28.6 | 10D | SF | P | 0642 | 79 | | D |
| 0761 | URUM | 23 | 0724 | 0729 | 0734 | N27 | E38 | 5555 | 06 26.3 | 10 | SF | C | | 113 | 1.6 | E |
| 0762 | | 23 | 08593 | 09022 | 0919 | N26 | E44 | 5555 | 06 26.8 | 20 | SN C 4.1 | | | 58 | 1.3 | E |
| | PURP | 23 | 0859 | 0902 | 0910D | N26 | E44 | 5555 | 06 26.8 | 11D | SN | C | 0902 | 88 | 1.4 | E |
| | URUM | 23 | 0859 | 0904 | 0920 | N25 | E44 | 5555 | 06 26.8 | 21 | SN | C | | 80 | 1.2 | E |
| | SVTO | 23 | 0859 | 0904 | 0924 | N28 | E43 | 5555 | 06 26.7 | 25 | SN C 4.1 | 3 | | 50 | | |
| | LEAR | 23 | 0902 | 0902 | 0913 | N26 | E43 | 5555 | 06 26.7 | 11 | SF C 4.1 | 3 | | 15 | | |
| 0763 | HTPR | 23 | 1004 | 1006 | 1010 | N28 | E38 | 5555 | 06 26.4 | 6 | SN | | 1006 | 10 | 0.1 | |
| 0764 | HTPR | 23 | 1057 | 1058 | 1100 | N27 | E33 | 5555 | 06 26.0 | 3 | SN | | 1058 | 20 | 0.2 | |
| 0765 | URUM | 23 | 1117 | 1121 | 1126 | N22 | W19 | 5544 | 06 22.0 | 9 | SN | C | | 96 | 1.1 | E |
| 0766 | | 23 | 1216* | 12374 | 1259 | N23 | W18 | 5544 | 06 22.1 | 43 | SF | | | 54 | 0.9 | E |
| | SVTO | 23 | 1216 | 1241 | 1301 | N21 | W19 | 5544 | 06 22.0 | 45 | SF | 3 | | 58 | | |
| | HTPR | 23 | 1227 | 1237 | 1257 | N23 | W16 | 5544 | 06 22.3 | 30 | SN | | 1237 | 80 | 0.9 | E |
| | RAMY | 23 | 1236 | 1241 | 1258 | N24 | W18 | 5544 | 06 22.1 | 22 | SF | 2 | | 24 | | |
| 0767 | HTPR | 23 | 1247 | 1249 | 1259 | N26 | E35 | 5555 | 06 26.2 | 12 | SN | | 1249 | 140 | 1.7 | E |
| 0768 | | 23 | 1253* | 1313* | 1335 | S13 | E66 | 5563 | 06 28.5 | 42 | SF | | | 52 | 3.2 | EFK |
| | RAMY | 23 | 1253 | 1313 | 1342 | S15 | E67 | 5563 | 06 28.6 | 49 | SF | 3 | | 28 | | |
| | HTPR | 23 | 1308 | 1315 | 1335 | S12 | E66 | 5563 | 06 28.5 | 27 | 1N | | 1328 | 140 | 3.2 | EK |
| | SVTO | 23 | 1312 | 1316 | 1333 | S12 | E66 | 5563 | 06 28.5 | 21 | SF | 3 | | 26 | | F |
| | SVTO | 23 | 1312 | 1327 | 1333 | S12 | E66 | 5563 | 06 28.5 | 21 | SF | E | | 42 | | K |
| | HOLL | 23 | 1326 | 1327 | 1332 | S15 | E67 | 5563 | 06 28.6 | 6 | SF | 3 | | 23 | | |
| 0769 | HTPR | 23 | 1316 | 1330 | 1347 | N26 | E35 | 5555 | 06 26.3 | 31 | SN | | 1330 | 50 | 0.6 | E |
| 0770 | HTPR | 23 | 1418 | 1421 | 1427 | N27 | E32 | 5555 | 06 26.1 | 9 | SN | | 1421 | 40 | 0.5 | E |
| 0771 | HTPR | 23 | 1450 | 1510 | 1540 | S19 | W34 | 5542 | 06 21.0 | 50 | SN | | 1510 | 20 | 0.2 | |
| 0772 | | 23 | 1440* | 15067 | 1530 | N27 | E33 | 5555 | 06 26.2 | 50 | SF | | | 25 | 0.6 | EFI |
| | HTPR | 23 | 1440 | 1513 | 1541 | N27 | E31 | 5555 | 06 26.0 | 61 | SN | | 1513 | 50 | 0.6 | EI |
| | HOLL | 23 | 1505 | 1506 | 1518 | N26 | E35 | 5555 | 06 26.3 | 13 | SF | 3 | | 21 | | F |
| | SVTO | 23 | 1506 | 1507 | 1520 | N28 | E32 | 5555 | 06 26.1 | 14 | SF | 3 | | 12 | | F |
| | RAMY | 23 | 1507 | 1507 | 1540 | N28 | E35 | 5555 | 06 26.4 | 33 | SF | 3 | | 18 | | F |

H α SOLAR FLARES

43
Jun 89

JUNE 1989

| Grp # | Sta | Day | Start (UT) | Max (UT) | End (UT) | NOAA/USAF | | | CMP Mo Day | Dur (Min) | Imp Opt Xray | Obs See Type | Area Measurement | | | Remarks | |
|-------|------|-------|------------|----------|----------|-----------|------|---------|------------|-----------|--------------|--------------|------------------|----------------------|---------------|---------|------|
| | | | | | | Lat | Cmd | Region | | | | | Time (UT) | Apparent (10-6 Disk) | Corr (Sq Deg) | | |
| 0773 | 23 | 1600* | 16305 | 1651 | S15 | E66 | 5563 | 06 28.7 | 51 | SF | | | 67 | 1.9 | E | | |
| | RAMY | 23 | 1600 | 1634U | 1653D | S15 | E65 | 5563 | 06 28.6 | 53D | SF | 2 | E | 86 | | | |
| | SVTO | 23 | 1601 | 1630 | 1705 | S13 | E65 | 5563 | 06 28.6 | 64 | SF | 2 | E | 73 | | | |
| | HOLL | 23 | 1624 | 1631 | 1653 | S15 | E66 | 5563 | 06 28.7 | 29 | SF | 3 | E | 66 | | | |
| | HTPR | 23 | 1628 | 1630 | 1640 | S16 | E66 | 5563 | 06 28.7 | 12 | SN | | | 1630 | 80 | 1.9 | E |
| PALE | 23 | 1635 | 1635 | 1646 | S17 | E66 | 5563 | 06 28.7 | 11 | SF | 3 | E | | 31 | | | |
| 0774 | 23 | 1706* | 1714* | 1731 | S18 | W35 | 5542 | 06 21.0 | 25 | SF | | | | 21 | 0.4 | | |
| | HTPR | 23 | 1706 | 1714 | 1731 | S19 | W35 | 5542 | 06 21.0 | 25 | SF | | | 1714 | 30 | 0.4 | |
| | HOLL | 23 | 1726 | 1727 | 1731 | S18 | W35 | 5542 | 06 21.1 | 5 | SF | 3 | E | | 12 | | |
| 0775 | 23 | 1727* | 17487 | 1818 | N28 | E35 | 5555 | 06 26.5 | 51 | SN C 3.8 | | | | 72 | 0.8 | EFK | |
| | PALE | 23 | 1727 | 1754 | 1850 | N28 | E33 | 5555 | 06 26.3 | 83 | SF C 3.8 | 3 | E | | 68 | | |
| | HTPR | 23 | 1740 | 1755 | 1803 | N28 | E34 | 5555 | 06 26.4 | 23 | SB | | | 1755 | 70 | 0.8 | EF |
| | HOLL | 23 | 1745 | 1748 | 1810 | N27 | E36 | 5555 | 06 26.5 | 25 | SF | | E | | 69 | | K |
| | HOLL | 23 | 1745 | 1754 | 1810 | N27 | E36 | 5555 | 06 26.5 | 25 | SN C 3.8 | 3 | E | | 80 | | FE |
| 0776 | HOLL | 23 | 1821 | 1829 | 1832 | S15 | E64 | 5563 | 06 28.6 | 11 | SF | 3 | E | | 36 | | |
| 0777 | 23 | 1936 | 1936 | 1947 | S17 | E66 | 5563 | 06 28.8 | 11 | SF | | | | 19 | | | |
| | PALE | 23 | 1936 | 1936 | 1947 | S18 | E66 | 5563 | 06 28.8 | 11 | SF | 3 | E | | 24 | | |
| | RAMY | 23 | 1954E | 1959U | 2101D | S16 | E65 | 5563 | 06 28.7 | 67D | SF | 1 | E | | 14 | | |
| 0778 | PALE | 23 | 2039 | 2054 | 2104 | N26 | E32 | 5555 | 06 26.3 | 25 | SF | 3 | E | | 16 | | |
| 0779 | HOLL | 23 | 2150 | 2153 | 2217 | N26 | E33 | 5555 | 06 26.5 | 27 | SF | 3 | E | | 30 | | |
| 0780 | HOLL | 23 | 2214 | 2226 | 2258 | S15 | E63 | 5563 | 06 28.7 | 44 | SF | 3 | E | | 49 | | |
| 0781 | 23 | 23411 | 2343 | 2349 | S14 | E16 | 5552 | 06 25.2 | 8 | SF | | | | 44 | 0.7 | EIJT | |
| | VORO | 23 | 2341 | 2343 | 2349 | S14 | E16 | 5552 | 06 25.2 | 8 | SF | 2 | C | 2343 | 63 | 0.7 | EIJT |
| | HOLL | 23 | 2342 | 2343 | 2349 | S15 | E16 | 5552 | 06 25.2 | 7 | SF | 3 | E | | 24 | | |
| 0782 | 23 | 23552 | 23574 | 2420 | S15 | E16 | 5552 | 06 25.2 | 25 | SF | | | | 63 | 1.0 | DEIJT | |
| | VORO | 23 | 2355 | 2358 | 2448 | S14 | E16 | 5552 | 06 25.2 | 53 | SF | 2 | C | 2358 | 108 | 1.2 | EIJT |
| | LEAR | 23 | 2357 | 2357 | 2402 | S15 | E16 | 5552 | 06 25.2 | 5 | SF | 3 | E | | 16 | | |
| | PURP | 23 | 2357 | 2401 | 2410 | S15 | E16 | 5552 | 06 25.2 | 13 | SN | | C | 2401 | 64 | 0.7 | D |
| 0783 | 23 | 23581 | 2400 | 2406 | S20 | E30 | 5556 | 06 26.3 | 8 | SF | | | | 60 | 0.8 | DEIJT | |
| | VORO | 23 | 2358 | 2400 | 2406 | S20 | E30 | 5556 | 06 26.3 | 8 | SF | 2 | C | 2400 | 90 | 1.2 | EIJT |
| | PURP | 23 | 2359 | 2402U | 2402D | S20 | E29 | 5556 | 06 26.2 | 3D | SF | | P | 2402 | 31 | 0.4 | D |
| 0784 | LEAR | 23 | 2359 | 2401 | 2406 | S14 | E58 | 5563 | 06 28.4 | 7 | SF | 3 | E | | 13 | | |
| 0785 | 24 | 00482 | 00511 | 0055 | S18 | W38 | 5542 | 06 21.1 | 7 | SF C 2.4 | | | | 80 | 1.7 | DI | |
| | VORO | 24 | 0048 | 0052 | 0055 | S18 | W38 | 5542 | 06 21.1 | 7 | SF | 1 | C | 0052 | 125 | 1.7 | DI |
| | LEAR | 24 | 0050 | 0051 | 0055 | S18 | W38 | 5542 | 06 21.1 | 5 | SF C 2.4 | 3 | E | | 34 | | |
| 0786 | LEAR | 24 | 0102 | 0107 | 0120 | S15 | E62 | 5563 | 06 28.7 | 18 | SF | 3 | E | | 23 | | |
| 0787 | LEAR | 24 | 0140 | 0142 | 0215 | N22 | E57 | 5565 | 06 28.4 | 35 | SF | 3 | E | | 56 | | |
| 0788 | PURP | 24 | 0217 | 0219U | 0219D | N25 | E29 | 5555 | 06 26.3 | 2D | SF | | P | 0219 | 44 | 0.6 | D |
| 0789 | 24 | 02262 | 02304 | 0313 | N22 | E56 | 5565 | 06 28.4 | 47 | SN C 3.0 | | | | 40 | 1.0 | E | |
| | LEAR | 24 | 0226 | 0230 | 0246 | N22 | E55 | 5565 | 06 28.3 | 20 | SF C 3.0 | 3 | E | | 33 | | |
| | URUM | 24 | 0228 | 0234 | 0340 | N23 | E58 | 5565 | 06 28.6 | 72 | SN | | C | | 48 | 1.0 | E |
| 0790 | 24 | 03191 | 0320* | 0339 | N27 | E28 | 5555 | 06 26.3 | 20 | SN M 2.4 | | | | 128 | 1.9 | DEF | |
| | TACH | 24 | 0319 | 0320 | 0331 | N27 | E27 | 5555 | 06 26.2 | 12 | 1N | 3 | C | 0320 | 204 | 2.6 | E |
| | LEAR | 24 | 0320 | 0328 | 0347 | N26 | E29 | 5555 | 06 26.4 | 27 | SF M 2.4 | 3 | E | | 70 | | F |
| | URUM | 24 | 0320 | 0332 | 0345 | N27 | E28 | 5555 | 06 26.3 | 25 | SN | | C | | 129 | 1.6 | F |
| | PURP | 24 | 0323E | 0327 | 0332 | N27 | E29 | 5555 | 06 26.4 | 9D | SF | | C | 0327 | 109 | 1.4 | D |
| 0791 | LEAR | 24 | 0516 | 0522 | 0531 | N22 | E54 | 5565 | 06 28.4 | 15 | SF C 2.1 | 3 | E | | 21 | | |
| 0792 | 24 | 0544* | 06023 | 0619 | N22 | E54 | 5565 | 06 28.4 | 35 | SN C 1.9 | | | | 49 | 1.2 | E | |
| | LEAR | 24 | 0544 | 0602 | 0622 | N22 | E53 | 5565 | 06 28.3 | 38 | SF C 1.9 | 3 | E | | 34 | | |
| | URUM | 24 | 0600 | 0605 | 0616 | N22 | E55 | 5565 | 06 28.5 | 16 | SN | | C | | 64 | 1.2 | E |

H α SOLAR FLARES

JUNE 1989

| Grp # | Sta | Day | Start (UT) | Max (UT) | End (UT) | NOAA/USAF | | | Dur (Min) | Imp Opt | Xray | Obs See | Type | Area Measurement | | | Remarks |
|-------|------|-----|------------|----------|----------|-----------|-----|--------|-----------|---------|------|----------|------|------------------|------|-----------|---------|
| | | | | | | Lat | Cmd | Region | | | | | | Mo | Day | Time (UT) | |
| 0793 | HTPR | 24 | 0748 | 0748 | 0752 | N28 | E22 | 5555 | 06 | 26.0 | 4 | SF | | 0748 | 30 | 0.3 | E |
| 0794 | | 24 | 0750* | 0802 | 0809 | S15 | E12 | 5552 | 06 | 25.2 | 19 | SN | | | 68 | 0.7 | AE |
| | HTPR | 24 | 0750 | 0802 | 0810 | S16 | E11 | 5552 | 06 | 25.2 | 20 | SB | | 0802 | 50 | 0.5 | A |
| | YUNN | 24 | 0751 | 0803 | 0809 | S15 | E12 | 5552 | 06 | 25.2 | 18 | SN | C | | 113 | 1.2 | |
| | KAND | 24 | 0803 | 0804 | 0809 | S15 | E12 | 5552 | 06 | 25.2 | 6 | SN | P | 0804 | 42 | 0.5 | E |
| 0795 | HTPR | 24 | 0905 | 0916 | 0920 | S18 | W43 | 5542 | 06 | 21.1 | 15 | SF | | 0916 | 30 | 0.4 | E |
| 0796 | HTPR | 24 | 1029 | 1029 | 1040 | S16 | E10 | 5552 | 06 | 25.2 | 11 | SF | | 1029 | 40 | 0.4 | E |
| 0797 | | 24 | 1149 | 1201 | 1230 | N26 | E24 | 5555 | 06 | 26.3 | 41 | SF | | | 34 | | F |
| | SVTO | 24 | 1149 | 1201 | 1252 | N27 | E23 | 5555 | 06 | 26.3 | 63 | SF | 3 | E | 26 | | F |
| | RAMY | 24 | 1156E | 1201 | 1207 | N26 | E24 | 5555 | 06 | 26.4 | 11D | SF | 3 | E | 42 | | F |
| 0798 | | 24 | 1344 | 1346* | 1413 | N28 | E24 | 5555 | 06 | 26.4 | 29 | SF C 4.1 | | | 39 | 0.6 | EFI |
| | RAMY | 24 | 1344 | 1356 | 1418 | N27 | E24 | 5555 | 06 | 26.4 | 34 | SF C 4.1 | 3 | E | 29 | | F |
| | HTPR | 24 | 1345 | 1346 | 1350 | N28 | E23 | 5555 | 06 | 26.4 | 5 | SF | | 1346 | 30 | 0.3 | |
| | HTPR | 24 | 1349 | 1400 | 1425 | N27 | E25 | 5555 | 06 | 26.5 | 36 | SF | | 1400 | 70 | 0.8 | EI |
| | SVTO | 24 | 1350 | 1352 | 1420 | N28 | E23 | 5555 | 06 | 26.4 | 30 | SF C 4.1 | 3 | E | 28 | | F |
| 0799 | HTPR | 24 | 1447 | 1453 | 1505 | S16 | E08 | 5552 | 06 | 25.2 | 18 | SF | | 1453 | 30 | 0.3 | E |
| 0800 | | 24 | 1538* | 1538* | 1559 | N26 | E21 | 5555 | 06 | 26.3 | 21 | SF C 7.6 | | | 33 | | F |
| | HOLL | 24 | 1538 | 1538 | 1545 | N25 | E22 | 5555 | 06 | 26.3 | 7 | SF | 3 | E | 28 | | |
| | HOLL | 24 | 1546 | 1547 | 1552 | N26 | E22 | 5555 | 06 | 26.4 | 6 | SF | 3 | E | 26 | | |
| | SVTO | 24 | 1558 | 1604 | 1614D | N27 | E20 | 5555 | 06 | 26.2 | 16D | SF C 7.6 | 2 | E | 36 | | F |
| | RAMY | 24 | 1603 | 1605 | 1619 | N25 | E21 | 5555 | 06 | 26.3 | 16 | SF C 7.6 | 3 | E | 42 | | F |
| 0801 | | 24 | 1850 | 1852 | 1916 | N26 | E21 | 5555 | 06 | 26.4 | 26 | SF C 7.0 | | | 49 | | FK |
| | HOLL | 24 | 1850 | 1852 | 1916 | N26 | E21 | 5555 | 06 | 26.4 | 26 | SN | E | | 53 | | K |
| | HOLL | 24 | 1850 | 1859 | 1916 | N26 | E21 | 5555 | 06 | 26.4 | 26 | SF C 7.0 | 3 | E | 50 | | |
| | PALE | 24 | 1852 | 1855 | 1916 | N27 | E20 | 5555 | 06 | 26.3 | 24 | SF C 7.0 | 3 | E | 45 | | F |
| 0802 | HOLL | 25 | 0008E | 0011U | 0033 | S18 | E17 | 5556 | 06 | 26.3 | 25D | SF | 3 | E | 26 | | F |
| 0803 | HOLL | 25 | 0104 | 0112 | 0143 | S18 | W54 | 5542 | 06 | 20.9 | 39 | SF | 3 | E | 27 | | |
| 0804 | YUNN | 25 | 0318 | 0322 | 0328 | S18 | E48 | 5563 | 06 | 28.8 | 10 | SN | C | | 48 | 0.8 | E |
| 0805 | | 25 | 0331* | 0337* | 0358 | N27 | E15 | 5555 | 06 | 26.3 | 27 | SN M 1.1 | | | 80 | 1.0 | EF |
| | YUNN | 25 | 0331 | 0337 | 0343 | N27 | E14 | 5555 | 06 | 26.2 | 12 | SN | C | | 32 | 0.4 | |
| | URUM | 25 | 0350 | 0356 | 0404 | N26 | E16 | 5555 | 06 | 26.4 | 14 | SN | C | | 129 | 1.5 | E |
| | PALE | 25 | 0351 | 0351 | 0407 | N27 | E14 | 5555 | 06 | 26.2 | 16 | SF M 1.1 | 3 | E | 78 | | F |
| 0806 | ABST | 25 | 0432E | 0433U | 0449D | S16 | E04 | 5552 | 06 | 25.5 | 17D | SF | P | 0433 | 79 | 0.9 | D |
| 0807 | | 25 | 0521 | 0525 | 0540 | S16 | E14 | 5556 | 06 | 26.3 | 19 | SN | | | 69 | 0.8 | D |
| | ABST | 25 | 0521 | 0525 | 0543 | S16 | E14 | 5556 | 06 | 26.3 | 22 | SN | C | 0525 | 87 | 0.9 | D |
| | PURP | 25 | 0526E | 0527U | 0536 | S15 | E14 | 5556 | 06 | 26.3 | 10D | SF | P | 0527 | 51 | 0.6 | D |
| 0808 | | 25 | 0538* | 0541* | 0604 | N26 | E14 | 5555 | 06 | 26.3 | 26 | SN C 2.7 | | | 78 | 1.3 | DE |
| | URUM | 25 | 0538 | 0542 | 0615 | N27 | E14 | 5555 | 06 | 26.3 | 37 | SN | C | | 113 | 1.3 | E |
| | ABST | 25 | 0540 | 0542 | 0555 | N26 | E14 | 5555 | 06 | 26.3 | 15 | SN | C | 0542 | 140 | 1.6 | E |
| | PURP | 25 | 0541E | 0541U | 0541D | N27 | E16 | 5555 | 06 | 26.5 | 15D | SN | P | 0541 | 83 | 1.0 | D |
| | LEAR | 25 | 0541 | 0541 | 0549 | N26 | E13 | 5555 | 06 | 26.2 | 8 | SF C 2.7 | 4 | E | 34 | | |
| | LEAR | 25 | 0608 | 0612 | 0619 | N26 | E12 | 5555 | 06 | 26.2 | 11 | SF | 4 | E | 19 | | |
| 0809 | KHAR | 25 | 0718E | | 0722D | N26 | E11 | 5555 | 06 | 26.1 | 4D | SF | 2 | V | | | D |
| 0810 | | 25 | 0733 | 0734 | 0747 | S20 | E29 | 5561 | 06 | 27.5 | 14 | SF | | | 13 | | |
| | SVTO | 25 | 0733 | 0734 | 0748 | S19 | E30 | 5561 | 06 | 27.6 | 15 | SF | 3 | E | 15 | | |
| | LEAR | 25 | 0738 | 0740 | 0746 | S22 | E28 | 5561 | 06 | 27.5 | 8 | SF | 4 | E | 11 | | |
| 0811 | | 25 | 0815* | 0818* | 0843 | N27 | E10 | 5555 | 06 | 26.1 | 28 | SF C 1.5 | | | 30 | | D |
| | KHAR | 25 | 0815 | 0818 | 0848 | N26 | E11 | 5555 | 06 | 26.2 | 33 | SN | 2 | V | 0818 | | D |
| | LEAR | 25 | 0817 | 0819 | 0844 | N27 | E10 | 5555 | 06 | 26.1 | 27 | SF C 1.5 | 3 | E | 37 | | |
| | SVTO | 25 | 0829 | 0829 | 0838 | N28 | E09 | 5555 | 06 | 26.0 | 9 | SF | 3 | E | 22 | | |

H α SOLAR FLARES

45
Jun 89

JUNE 1989

| Grp # | Sta | Day | Start (UT) | Max (UT) | End (UT) | Lat | CMD | NOAA/ USAF Region | CMP Mo | Dur Day | Imp (Min) | Opt | Xray | Obs See | Type | Area Measurement | | | Remarks |
|-------|------|-------|------------|-----------------|-----------------|-----|------|-------------------------|-----------|------------|--------------|------|------|------------|------|------------------|----------------------|---------------|---------|
| | | | | | | | | | | | | | | | | Time (UT) | Apparent (10-6 Disk) | Corr (Sq Deg) | |
| 0812 | LEAR | 25 | 0838 | 0839 | 0843 | S20 | E11 | 5556 | 06 | 26.2 | 5 | SF | | 3 | E | | 14 | | F |
| 0813 | SVTO | 25 | 0943 | 0944 | 0957 | N28 | E11 | 5555 | 06 | 26.3 | 14 | SF C | 1.8 | 3 | E | | 31 | | |
| 0814 | SVTO | 25 | 1158 | 1158 | 1213 | S18 | E10 | 5556 | 06 | 26.3 | 15 | SF | | 3 | E | | 30 | | F |
| 0815 | 25 | 1308 | 13185 | 1332 | S14 | W04 | 5552 | 06 | 25.2 | 24 | SN | | | | | | 13 | | |
| | SVTO | 25 | 1308 | 1323 | 1332 | S15 | W03 | 5552 | 06 | 25.3 | 24 | SF | | 3 | E | | 13 | | |
| | KANZ | 25 | 1314E | 1318 | 1320D | S14 | W04 | 5552 | 06 | 25.2 | 60 | SN | | | V | | | | |
| | 25 | 1357 | | 1607 | No Flare Patrol | | | | | | | | | | | | | | |
| | 25 | 1615 | | 1623 | No Flare Patrol | | | | | | | | | | | | | | |
| | 25 | 1637 | | 1645 | No Flare Patrol | | | | | | | | | | | | | | |
| 25 | 1649 | | 1710 | No Flare Patrol | | | | | | | | | | | | | | | |
| 25 | 1715 | | 1720 | No Flare Patrol | | | | | | | | | | | | | | | |
| 0816 | PALE | 25 | 1809 | 1810 | 1820 | S21 | E24 | 5561 | 06 | 27.6 | 11 | SF C | 1.9 | 3 | E | | 23 | | |
| 0817 | HOLL | 25 | 2118 | 2120 | 2136 | S16 | E36 | 5563 | 06 | 28.6 | 18 | SF | | 3 | E | | 10 | | |
| | | | | | | | | | | | | | | | | | | | |
| 0818 | LEAR | 26 | 0008 | 0010 | 0016 | S14 | E34 | 5563 | 06 | 28.6 | 8 | SF | | 3 | E | | 22 | | |
| 0819 | VORO | 26 | 0110 | 0116 | 0134 | N21 | W58 | 5544 | 06 | 21.6 | 24 | SF | | 2 | C | 0116 | 72 | 1.4 | E |
| 0820 | URUM | 26 | 0140 | 0140E | 0144 | S18 | E31 | 5563 | 06 | 28.4 | 4 | SN | | | C | | 96 | 1.2 | D |
| 0821 | VORO | 26 | 0152E | 0155 | 0159 | S17 | W66 | 5542 | 06 | 21.1 | 7D | SF | | 2 | C | 0155 | 45 | | DJ |
| 0822 | YUNN | 26 | 0255 | 0255 | 0300 | N27 | E02 | 5555 | 06 | 26.3 | 5 | SN | | | P | | 32 | 0.4 | E |
| 0823 | YUNN | 26 | 0256 | 0257 | 0320 | S16 | E31 | 5563 | 06 | 28.5 | 24 | SN | | | P | | 24 | 0.3 | |
| 0824 | 26 | 03436 | 03483 | 0407 | N19 | E39 | 5569 | 06 | 29.1 | 24 | SN | | | | | | 74 | 1.4 | EY |
| | TACH | 26 | 0343 | 0351 | 0421 | N19 | E40 | 5569 | 06 | 29.2 | 38 | SB | | 3 | C | 0351 | 117 | 1.6 | EY |
| | URUM | 26 | 0344 | 0348 | 0359 | N19 | E38 | 5569 | 06 | 29.0 | 15 | SN | | | C | | 80 | 1.1 | E |
| | LEAR | 26 | 0349 | 0351 | 0400 | N18 | E39 | 5569 | 06 | 29.1 | 11 | SF | | 3 | E | | 24 | | |
| 0825 | 26 | 03581 | 03582 | 0410 | N26 | E01 | 5555 | 06 | 26.2 | 12 | SN C | 2.6 | | | | | 72 | 1.0 | E |
| | LEAR | 26 | 0358 | 0358 | 0407 | N26 | E02 | 5555 | 06 | 26.3 | 9 | SF C | 2.6 | 3 | E | | 24 | | |
| | URUM | 26 | 0358 | 0400 | 0406 | N27 | E02 | 5555 | 06 | 26.3 | 8 | SN | | | C | | 64 | 0.7 | E |
| | TACH | 26 | 0359 | 0359 | 0417 | N26 | E00 | 5555 | 06 | 26.2 | 18 | SB | | 3 | C | 0359 | 128 | 1.4 | E |
| 0826 | SVTO | 26 | 0537 | 0538 | 0546 | N28 | E16 | 5564 | 06 | 27.5 | 9 | SF | | 3 | E | | 14 | | |
| 0827 | ABST | 26 | 0632 | 0632 | 0634 | S18 | E34 | 5563 | 06 | 28.9 | 2 | SN | | | C | 0632 | 87 | 1.1 | D |
| 0828 | 26 | 07273 | 07295 | 0745 | N20 | W57 | 5544 | 06 | 21.9 | 18 | SN | | | | | | 55 | 1.6 | DEF |
| | ISTA | 26 | 0727 | | 0747 | N20 | W55 | 5544 | 06 | 22.1 | 20 | 1B | | | V | | | | F |
| | LEAR | 26 | 0727 | 0729 | 0746 | N20 | W57 | 5544 | 06 | 21.9 | 19 | SF | | 3 | E | | 26 | | |
| | KANZ | 26 | 0727 | 0731 | 0745 | N20 | W58 | 5544 | 06 | 21.9 | 18 | SF | | | V | | | | |
| | SVTO | 26 | 0727 | 0732 | 0751 | N18 | W57 | 5544 | 06 | 22.0 | 24 | SF | | 3 | E | | 35 | | |
| | URUM | 26 | 0729 | 0734 | 0741 | N21 | W58 | 5544 | 06 | 21.9 | 12 | SN | | | C | | 80 | 1.6 | E |
| KHAR | 26 | 0730 | 0732 | 0740 | N20 | W59 | 5544 | 06 | 21.8 | 10 | SN | | 2 | P | 0734 | 80 | 1.6 | D | |
| 0829 | ISTA | 26 | 0830 | | 0841 | S12 | E33 | 5563 | 06 | 28.8 | 11 | 1N | | | V | | | | F |
| 0830 | 26 | 08483 | 08501 | 0859 | N29 | E01 | 5555 | 06 | 26.4 | 11 | SN | | | | | | 43 | 0.5 | DE |
| | KAND | 26 | 0848 | 0851 | 0900 | N29 | W01 | 5555 | 06 | 26.3 | 12 | SN | | | P | 0851 | 42 | 0.5 | D |
| | KHAR | 26 | 0850 | | 0900 | N29 | W01 | 5555 | 06 | 26.3 | 10 | SF | | 2 | V | 0850 | | | D |
| | CATA | 26 | 0850 | 0850 | 0901 | N29 | E01 | 5555 | 06 | 26.4 | 11 | SB | | 1 | C | 0850 | 56 | 0.6 | |
| | ISTA | 26 | 0851E | | 0900 | N29 | E04 | 5555 | 06 | 26.7 | 9D | 1N | | | V | | | | E |
| | URUM | 26 | 0851 | 0854U | 0856 | N29 | E01 | 5555 | 06 | 26.4 | 5 | SN | | | C | | 32 | 0.4 | E |
| 0831 | URUM | 26 | 1002 | 1003 | 1014 | N27 | W02 | 5555 | 06 | 26.3 | 12 | SN | | | C | | 64 | 0.7 | E |

46
Jun 89

H α SOLAR FLARES

JUNE 1989

| Grp # | Sta | Day | Start (UT) | Max (UT) | End (UT) | Lat | CMD | NOAA/ USAF Region | CMP Mo | Dur Day | Imp (Min) | Opt | Xray | Obs See | Type | Area Measurement | | Remarks |
|-------|------|------|------------|----------|-----------------|-----------------|-----|-------------------------|-----------|------------|--------------|-----|-------|------------|------|------------------|----------------------|---------|
| | | | | | | | | | | | | | | | | Time (UT) | Apparent (10-6 Disk) | |
| 0832 | | 26 | 10169 | 1027* | 1045 | N20 | E33 | 5569 | 06 | 28.9 | 29 | SF | | | | 40 | 0.8 | EK |
| | URUM | 26 | 1016 | 1029 | 1039 | N20 | E32 | 5569 | 06 | 28.9 | 23 | SN | | C | | 64 | 0.8 | E |
| | SVTO | 26 | 1025 | 1027 | 1048 | N20 | E34 | 5569 | 06 | 29.0 | 23 | SF | 3 | E | | 24 | | |
| | SVTO | 26 | 1025 | 1041 | 1048 | N20 | E34 | 5569 | 06 | 29.0 | 23 | SF | | E | | 31 | | K |
| 0833 | | 26 | 10491 | 1054* | 1109 | N20 | E33 | 5569 | 06 | 29.0 | 20 | SN | C 2.5 | | | 66 | 1.0 | EFK |
| | SVTO | 26 | 1049 | 1054 | 1109 | N20 | E34 | 5569 | 06 | 29.0 | 20 | SF | C 2.5 | 3 | E | 69 | | |
| | SVTO | 26 | 1049 | 1104 | 1109 | N20 | E34 | 5569 | 06 | 29.0 | 20 | SF | | E | | 47 | | K |
| | KAND | 26 | 1050 | 1054 | 1110 | N20 | E32 | 5569 | 06 | 28.9 | 20 | SB | | P | 1054 | 83 | 1.0 | EF |
| 0834 | | 26 | 1229 | 1232 | 1256 | N18 | W60 | 5544 | 06 | 21.9 | 27 | SF | | | | 45 | | |
| | SVTO | 26 | 1229 | 1232 | 1253 | N17 | W61 | 5544 | 06 | 21.9 | 24 | SF | | 3 | E | 45 | | |
| | KANZ | 26 | 1229 | 1233 | 1300 | N19 | W60 | 5544 | 06 | 21.9 | 31 | SF | | V | | | | |
| 0835 | | 26 | 12461 | 12462 | 1256 | N22 | E31 | 5569 | 06 | 28.9 | 10 | SF | | | | 15 | | |
| | SVTO | 26 | 1246 | 1246 | 1256 | N21 | E30 | 5569 | 06 | 28.8 | 10 | SF | | 3 | E | 18 | | |
| | RAMY | 26 | 1247 | 1248 | 1257 | N22 | E32 | 5569 | 06 | 29.0 | 10 | SF | | 2 | E | 12 | | |
| 0836 | RAMY | 26 | 1325 | 1331 | 1340 | N20 | E30 | 5569 | 06 | 28.8 | 15 | SF | | 3 | E | 16 | | |
| 0837 | | 26 | 13451 | 13483 | 1401 | N21 | W63 | 5544 | 06 | 21.7 | 16 | SF | | | | 30 | 1.0 | E |
| | KAND | 26 | 1345 | 1348 | 1401 | N21 | W64 | 5544 | 06 | 21.7 | 16 | SN | | P | 1348 | 42 | 1.0 | E |
| | RAMY | 26 | 1345 | 1351 | 1401 | N21 | W62 | 5544 | 06 | 21.8 | 16 | SF | | 3 | E | 17 | | |
| | HOLL | 26 | 1346 | 1349 | 1402 | N21 | W63 | 5544 | 06 | 21.7 | 16 | SF | | 3 | E | 32 | | |
| 0838 | RAMY | 26 | 1358 | 1408 | 1449 | N19 | E26 | 5569 | 06 | 28.6 | 51 | SF | | 3 | E | 21 | | |
| 0839 | HOLL | 26 | 1410 | 1410 | 1416 | S20 | E12 | 5561 | 06 | 27.5 | 6 | SF | C 2.4 | 3 | E | 21 | | F |
| 0840 | | 26 | 15392 | 15495 | 1701 | N20 | E29 | 5569 | 06 | 28.9 | 82 | 1N | M 1.9 | | | 135 | | FH |
| | SVTO | 26 | 1539 | 1554 | 1701 | N21 | E29 | 5569 | 06 | 28.9 | 82 | 1F | | 3 | E | 155 | | F |
| | RAMY | 26 | 1541 | 1549 | 1620D | N18 | E29 | 5569 | 06 | 28.9 | 39D | 1N | M 1.9 | 3 | E | 115 | | FH |
| | | 26 | 1752 | | 1818 | No Flare Patrol | | | | | | | | | | | | |
| | 26 | 1901 | | 1905 | No Flare Patrol | | | | | | | | | | | | | |
| | 26 | 1933 | | 1949 | No Flare Patrol | | | | | | | | | | | | | |
| 0841 | PALE | 26 | 1950E | 1950U | 2003 | N19 | E29 | 5569 | 06 | 29.0 | 13D | SF | C 4.1 | 3 | E | 11 | | |
| | | 26 | 2017 | | 2021 | No Flare Patrol | | | | | | | | | | | | |
| | | 26 | 2025 | | 2047 | No Flare Patrol | | | | | | | | | | | | |
| 0842 | | 26 | 2058* | 21081 | 2153 | N20 | E28 | 5569 | 06 | 29.0 | 55 | 2B | C 8.6 | | | 250 | | EF |
| | HOLL | 26 | 2058 | 2108 | 2153 | N21 | E27 | 5569 | 06 | 28.9 | 55 | 2B | C 8.6 | 4 | E | 279 | | FE |
| | PALE | 26 | 2108 | 2109 | 2118D | N20 | E29 | 5569 | 06 | 29.1 | 10D | 1N | | 3 | E | 221 | | FE |
| 0843 | HOLL | 26 | 2107 | 2109 | 2123 | S14 | E22 | 5563 | 06 | 28.5 | 16 | SF | | 3 | E | 33 | | |
| | | 26 | 2119 | | 2400 | No Flare Patrol | | | | | | | | | | | | |
| 0844 | HOLL | 26 | 2136 | 2158 | 2202 | N30 | W02 | 5555 | 06 | 26.7 | 26 | SF | | 3 | E | 17 | | F |
| 0845 | HOLL | 26 | 2205 | 2206 | 2212 | N20 | E28 | 5569 | 06 | 29.1 | 7 | SF | | 3 | E | 13 | | |
| 0846 | HOLL | 26 | 2205 | 2207 | 2228 | N21 | W61 | 5544 | 06 | 22.2 | 23 | SF | | 3 | E | 22 | | F |
| 0847 | | 26 | 2243 | 2251* | 2327 | N20 | E28 | 5569 | 06 | 29.1 | 44 | SF | C 4.9 | | | 43 | | EFK |
| | HOLL | 26 | 2243 | 2251 | 2327 | N20 | E28 | 5569 | 06 | 29.1 | 44 | SF | | E | | 57 | | K |
| | HOLL | 26 | 2243 | 2315 | 2327 | N20 | E28 | 5569 | 06 | 29.1 | 44 | SF | C 4.9 | 3 | E | 29 | | FE |
| | | 27 | 0000 | | 0009 | No Flare Patrol | | | | | | | | | | | | |
| 0848 | | 27 | 00091 | 00102 | 0024 | N21 | E26 | 5569 | 06 | 29.0 | 15 | SN | C 5.7 | | | 84 | 1.4 | EF |
| | HOLL | 27 | 0009 | 0010 | 0032 | N21 | E26 | 5569 | 06 | 29.0 | 23 | SN | C 5.7 | 4 | E | 56 | | FE |
| | URUM | 27 | 0010 | 0012 | 0016 | N21 | E25 | 5569 | 06 | 28.9 | 6 | SN | | C | 113 | 1.4 | E | |
| | 27 | 0024 | | 0032 | No Flare Patrol | | | | | | | | | | | | | |
| 0849 | HOLL | 27 | 0050 | 0056 | 0111 | N22 | E24 | 5569 | 06 | 28.9 | 21 | SF | | 4 | E | 15 | | F |

H α SOLAR FLARES

47
Jun 89

JUNE 1989

| Grp # | 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) | |
| 0850 | HOLL | 27 | 0056 | 0100 | 0134 | N21 E16 | 5565 | 06 | 28.3 | 38 | SF | | 3 | E | | 15 | | | |
| 0851 | HOLL | 27 | 0109 | 0110 | 0116 | S18 W20 | 5552 | 06 | 25.5 | 7 | SF | | 3 | E | | 14 | | | |
| | | 27 | 0120 | | 0122 | No Flare Patrol | | | | | | | | | | | | | |
| 0852 | | 27 | 02022 | 02052 | 0220 | N22 W71 | 5544 | 06 | 21.6 | 18 | SN | C 4.9 | | | | 34 | | | E |
| | URUM | 27 | 0202 | 0205 | 0219 | N21 W71 | 5544 | 06 | 21.6 | 17 | SN | | | C | | 32 | | | E |
| | LEAR | 27 | 0204 | 0207 | 0221 | N22 W71 | 5544 | 06 | 21.6 | 17 | SF | C 4.9 | 3 | E | | 35 | | | |
| 0853 | | 27 | 0214 | 0221 | 0225 | N20 E22 | 5569 | 06 | 28.8 | 11 | SN | | | | | 72 | 0.8 | | DE |
| | YUNH | 27 | 0211E | 0215U | 0215D | N18 E23 | 5569 | 06 | 28.8 | 4D | SN | | | P | 0215 | 32 | 0.4 | | D |
| | URUM | 27 | 0214 | 0221 | 0225 | N21 E22 | 5569 | 06 | 28.8 | 11 | SF | | | C | | 113 | 1.3 | | E |
| 0854 | URUM | 27 | 0256E | 0256 | 0305 | N20 E27 | 5569 | 06 | 29.2 | 9D | SN | | | C | | 161 | 2.0 | | E |
| 0855 | SVTO | 27 | 0442 | 0511 | 0654 | N20 E22 | 5569 | 06 | 28.9 | 132 | SF | | 3 | E | | 41 | | | F |
| 0856 | SVTO | 27 | 0522 | 0524 | 0533 | N24 W08 | 5555 | 06 | 26.6 | 11 | SF | | 3 | E | | 27 | | | F |
| 0857 | URUM | 27 | 0534 | 0539 | 0545 | N20 E25 | 5569 | 06 | 29.1 | 11 | SN | | | C | | 64 | 0.8 | | E |
| 0858 | | 27 | 0613 | 06104 | 0618 | N20 E25 | 5569 | 06 | 29.2 | 5 | SF | C 3.1 | | | | 15 | | | |
| | KANZ | 27 | 0608E | 0610 | 0619D | N20 E25 | 5569 | 06 | 29.2 | 11D | SF | | | C | | | | | |
| | LEAR | 27 | 0613 | 0614 | 0618 | N19 E25 | 5569 | 06 | 29.2 | 5 | SF | C 3.1 | 3 | E | | 15 | | | |
| 0859 | | 27 | 0554* | 0556* | 0613 | N08 E08 | 5558 | 06 | 27.8 | 19 | SF | C 2.4 | | | | 13 | | | F |
| | SVTO | 27 | 0554 | 0556 | 0559 | N06 E09 | 5558 | 06 | 27.9 | 5 | SF | C 2.4 | 3 | E | | 13 | | | |
| | SVTO | 27 | 0604 | 0605 | 0610 | N07 E08 | 5558 | 06 | 27.8 | 6 | SF | | 3 | E | | 11 | | | F |
| | SVTO | 27 | 0611 | 0611 | 0617 | N07 E08 | 5558 | 06 | 27.8 | 6 | SF | | 3 | E | | 12 | | | F |
| | SVTO | 27 | 0622 | 0623 | 0625 | N11 E09 | 5558 | 06 | 27.9 | 3 | SF | | 3 | E | | 15 | | | F |
| 0860 | SVTO | 27 | 0644 | 0649 | 0658 | N07 E07 | 5558 | 06 | 27.8 | 14 | SF | | 3 | E | | 14 | | | F |
| 0861 | | 27 | 06453 | 06453 | 0657 | N23 W74 | 5544 | 06 | 21.6 | 12 | SN | | | | | 33 | | | E |
| | CATA | 27 | 0645 | 0645 | 0651 | N24 W80 | 5544 | 06 | 21.1 | 6 | 1N | | 1 | C | 0645 | 56 | | | |
| | LEAR | 27 | 0648 | 0648 | 0657 | N22 W73 | 5544 | 06 | 21.7 | 9 | SF | | 3 | E | | 10 | | | |
| | ISTA | 27 | 0649E | | 0702 | N22 W68 | 5544 | 06 | 22.0 | 13D | SN | | | V | | | | | E |
| 0862 | SVTO | 27 | 0703 | 0703 | 0708 | S18 E01 | 5561 | 06 | 27.4 | 5 | SF | | 3 | E | | 23 | | | F |
| 0863 | | 27 | 0704* | 0718* | 0805 | N20 E23 | 5569 | 06 | 29.0 | 61 | SN | C 2.5 | | | | 79 | 1.2 | | DEF |
| | SVTO | 27 | 0704 | 0804 | 0958 | N21 E19 | 5569 | 06 | 28.7 | 174 | SF | C 2.5 | 3 | E | | 88 | | | F |
| | ISTA | 27 | 0705 | | 0755 | N21 E24 | 5569 | 06 | 29.1 | 50 | SF | | | V | | | | | D |
| | LEAR | 27 | 0717 | 0718 | 0725 | N18 E23 | 5569 | 06 | 29.0 | 8 | SF | C 2.0 | 3 | E | | 16 | | | |
| | KAND | 27 | 0718 | 0719 | 0725 | N18 E22 | 5569 | 06 | 29.0 | 7 | SN | | | P | 0719 | 83 | 1.0 | | EF |
| | URUM | 27 | 0720 | 0721 | 0722 | N19 E23 | 5569 | 06 | 29.1 | 2 | SN | | | C | | 129 | 1.5 | | E |
| | ISTA | 27 | 0804 | 0804 | 0826 | N20 E25 | 5569 | 06 | 29.2 | 22 | 1N | | | V | | | | | E |
| 0864 | SVTO | 27 | 0710 | 0710 | 0717 | N07 E07 | 5558 | 06 | 27.8 | 7 | SF | | 3 | E | | 19 | | | F |
| 0865 | | 27 | 07082 | 0710 | 0717 | S21 W14 | 5556 | 06 | 26.2 | 9 | SN | | | | | 19 | 0.2 | | DE |
| | KAND | 27 | 0708 | 0710 | 0715 | S21 W14 | 5556 | 06 | 26.2 | 7 | SN | | | P | 0710 | 21 | 0.2 | | D |
| | ISTA | 27 | 0709 | | 0718 | S23 W13 | 5556 | 06 | 26.3 | 9 | SN | | | V | | | | | E |
| | SVTO | 27 | 0710 | 0710 | 0717 | S20 W14 | 5556 | 06 | 26.2 | 7 | SF | | 3 | E | | 17 | | | |
| 0866 | ISTA | 27 | 0757 | | 0804 | N32 W05 | 5561A | 06 | 26.9 | 7 | SB | | | V | | | | | E |
| 0867 | | 27 | 08325 | 0841 | 0846 | N24 W06 | 5555 | 06 | 26.9 | 14 | SN | | | | | 12 | | | EF |
| | SVTO | 27 | 0832 | 0841 | 0843 | N25 W08 | 5555 | 06 | 26.7 | 11 | SF | | 3 | E | | 12 | | | F |
| | ISTA | 27 | 0837 | | 0848 | N24 W05 | 5555 | 06 | 27.0 | 11 | SN | | | V | | | | | E |
| 0868 | SVTO | 27 | 0832 | 0833 | 0838 | S16 E15 | 5563 | 06 | 28.5 | 6 | SF | | 3 | E | | 17 | | | |
| 0869 | URUM | 27 | 0910 | 0918 | 0940 | N21 E22 | 5569 | 06 | 29.1 | 30 | SF | | | C | | 129 | 1.5 | | U |
| 0870 | SVTO | 27 | 1053 | 1057 | 1101 | N07 E06 | 5558 | 06 | 27.9 | 8 | SF | | 3 | E | | 10 | | | F |

48
Jun 89

SO L A R F L A R E S

JUNE 1989

| Grp # | Sta | Day | Start (UT) | Max (UT) | End (UT) | Lat | CMD | NOAA/ USAF Region | CMP Mo | Day | Dur (Min) | Imp Opt | Xray | See | Obs Type | Area Measurement | | | Remarks | |
|-------|------|-------|------------|----------|----------|-----|------|-------------------------|-----------|------|--------------|------------|------|-----|-------------|------------------|-------------------------|------------------|---------|----|
| | | | | | | | | | | | | | | | | Time (UT) | Apparent (10-6 Disk) | Corr (Sq Deg) | | |
| 0871 | 27 | 1203* | 1213* | 1255 | N19 | E19 | 5569 | 06 | 28.9 | 52 | SN | C | 3.6 | | | 64 | 0.8 | DEF | | |
| | SVTO | 27 | 1203 | 1217 | N21 | E21 | 5569 | 06 | 29.1 | 52 | SN | C | 3.6 | 3 | E | 82 | | | | |
| | KAND | 27 | 1209 | 1213 | N19 | E20 | 5569 | 06 | 29.0 | 21 | SN | | | | P | 1213 | 125 | 1.4 | EF | |
| | RAMY | 27 | 1225 | 1244 | N18 | E20 | 5569 | 06 | 29.0 | 49 | SF | | | 4 | E | 29 | | | F | |
| | KAND | 27 | 1247 | 1249 | N18 | E16 | 5569 | 06 | 28.7 | 13 | SN | | | | P | 1249 | 21 | 0.2 | D | |
| 0872 | KAND | 27 | 1324 | 1326 | 1333 | N16 | W33 | 5567 | 06 | 25.0 | 9 | SN | | | P | 1326 | 42 | 0.5 | DG | |
| 0873 | 27 | 13312 | 13373 | 1415 | N26 | W15 | 5555 | 06 | 26.4 | 44 | SN | | | | | 101 | 1.6 | EFU | | |
| | HOLL | 27 | 1331 | 1339 | 1421 | N26 | W15 | 5555 | 06 | 26.4 | 50 | 1F | | 3 | E | 122 | | | F | |
| | SVTO | 27 | 1332 | 1339 | 1425 | N26 | W15 | 5555 | 06 | 26.4 | 53 | SF | | 3 | E | 73 | | | UF | |
| | RAMY | 27 | 1333 | 1337 | 1413 | N27 | W14 | 5555 | 06 | 26.5 | 40 | SF | | 4 | E | 63 | | | F | |
| | KAND | 27 | 1333 | 1340 | 1400 | N25 | W15 | 5555 | 06 | 26.4 | 27 | SB | | | P | 1340 | 145 | 1.6 | EF | |
| 0874 | HOLL | 27 | 1441 | 1441 | 1502 | S19 | W02 | 5561 | 06 | 27.4 | 21 | SF | | 3 | E | 25 | | | | |
| 0875 | HOLL | 27 | 1647 | 1658 | 1718 | S14 | E11 | 5563 | 06 | 28.5 | 31 | SF | | 3 | E | 45 | | | | |
| 0876 | 27 | 1755 | 1806* | 1915 | N20 | E16 | 5569 | 06 | 29.0 | 80 | SN | C | 5.0 | | | 72 | | | EFK | |
| | HOLL | 27 | 1755 | 1806 | 1915 | N20 | E16 | 5569 | 06 | 29.0 | 80 | SN | | | E | 73 | | | K | |
| | HOLL | 27 | 1755 | 1833 | 1915 | N20 | E16 | 5569 | 06 | 29.0 | 80 | SN | C | 5.0 | 3 | E | 72 | | | FE |
| 0877 | HOLL | 27 | 1846 | 1846 | 1854 | N27 | W17 | 5555 | 06 | 26.4 | 8 | SF | | 3 | E | 12 | | | F | |
| 0878 | HOLL | 27 | 1907 | 1909 | 1946 | N28 | W20 | 5555 | 06 | 26.2 | 39 | SF | | 3 | E | 20 | | | F | |
| 0879 | 27 | 19457 | 1956 | 2010 | S14 | E10 | 5563 | 06 | 28.6 | 25 | SF | | | | | 60 | | | FU | |
| | HOLL | 27 | 1945 | 1956 | 2016 | S13 | E10 | 5563 | 06 | 28.6 | 31 | SF | | 3 | E | 96 | | | UF | |
| | PALE | 27 | 1952 | 1956 | 2004 | S16 | E09 | 5563 | 06 | 28.5 | 12 | SF | | 3 | E | 23 | | | | |
| 0880 | HOLL | 27 | 1948 | 1949 | 1958 | S15 | W34 | 5552 | 06 | 25.2 | 10 | SF | | 3 | E | 40 | | | F | |
| 0881 | HOLL | 27 | 2000 | 2004 | 2015 | N20 | E15 | 5569 | 06 | 29.0 | 15 | SF | | 3 | E | 20 | | | EF | |
| 0882 | 27 | 2022 | 2033* | 2118 | N21 | E16 | 5569 | 06 | 29.1 | 56 | SF | | | | | 28 | | | K | |
| | HOLL | 27 | 2022 | 2033 | 2118 | N21 | E16 | 5569 | 06 | 29.1 | 56 | SF | | | E | 28 | | | K | |
| | HOLL | 27 | 2022 | 2052 | 2118 | N21 | E16 | 5569 | 06 | 29.1 | 56 | SF | | 3 | E | 27 | | | | |
| 0883 | HOLL | 27 | 2023 | 2026 | 2046 | N28 | W20 | 5555 | 06 | 26.3 | 23 | SF | | 3 | E | 21 | | | | |
| 0884 | HOLL | 27 | 2052 | 2053 | 2113 | S13 | E08 | 5563 | 06 | 28.5 | 21 | SF | | 3 | E | 35 | | | F | |
| 0885 | HOLL | 27 | 2053 | 2053 | 2058 | S20 | W04 | 5561 | 06 | 27.6 | 5 | SF | | 3 | E | 12 | | | | |
| 0886 | HOLL | 27 | 2122 | 2125 | 2140 | N21 | E01 | 5565 | 06 | 28.0 | 18 | SF | | 3 | E | 13 | | | | |
| 0887 | HOLL | 27 | 2129 | 2132 | 2135 | N20 | E14 | 5569 | 06 | 29.0 | 6 | SF | | 3 | E | 10 | | | | |
| 0888 | 27 | 2326 | 2333* | 2428 | N27 | W23 | 5555 | 06 | 26.2 | 62 | SF | C | 2.1 | | | 70 | 0.7 | | D | |
| | HOLL | 27 | 2326 | 2333 | 2436 | N27 | W20 | 5555 | 06 | 26.4 | 70 | SF | C | 2.1 | 3 | E | 66 | | | |
| | PURP | 27 | 2339E | 2345 | 2346D | N27 | W25 | 5555 | 06 | 26.0 | 7D | SF | | | P | 2345 | 78 | 1.0 | | D |
| | URUM | 28 | 0007E | 0010 | 0020 | N28 | W23 | 5555 | 06 | 26.2 | 13D | SN | | | C | 65 | 0.4 | | D | |
| 0889 | HOLL | 28 | 0040 | 0047 | 0059 | N20 | E12 | 5569 | 06 | 28.9 | 19 | SF | | 3 | E | 22 | | | | |
| 0890 | HOLL | 28 | 0105 | 0105 | 0110 | N11 | W02 | 5558 | 06 | 27.9 | 5 | SF | | 3 | E | 11 | | | | |
| 0891 | 28 | 0300* | 0326* | 0420 | N27 | W23 | 5555 | 06 | 26.3 | 80 | SN | | | | | 164 | 2.1 | | DEF | |
| | URUM | 28 | 0300 | 0326 | 0415 | N26 | W22 | 5555 | 06 | 26.4 | 75 | SN | | | C | 145 | 1.8 | | F | |
| | ABST | 28 | 0356E | 0359 | 0425 | N26 | W25 | 5555 | 06 | 26.2 | 29D | 1N | | | P | 0359 | 261 | 3.3 | | E |
| | ABST | 28 | 0404 | 0409 | 0420 | N28 | W21 | 5555 | 06 | 26.5 | 16 | SN | | | C | 0409 | 87 | 1.1 | | D |
| 0892 | ABST | 28 | 0430 | 0432 | 0442 | N20 | E07 | 5569 | 06 | 28.7 | 12 | SF | | | C | 0432 | 131 | 1.3 | | D |
| 0893 | 28 | 04415 | 04444 | 0504 | N27 | W16 | 5564 | 06 | 26.9 | 23 | SN | | | | | 152 | 1.8 | | E | |
| | ABST | 28 | 0441 | 0444 | 0456 | N27 | W16 | 5564 | 06 | 26.9 | 15 | SN | | | C | 0444 | 174 | 1.9 | | E |
| | ABST | 28 | 0446 | 0448 | 0511 | N27 | W16 | 5564 | 06 | 26.9 | 25 | SF | | | C | 0448 | 131 | 1.6 | | E |

H α SOLAR FLARES

49
Jun 89

JUNE 1989

| Grp # | Sta | Start Day (UT) | Max (UT) | End (UT) | NOAA/USAF | | | CMP Mo | Dur (Min) | Imp Opt | Xray | Obs See | Type | Area Measurement | | | Remarks |
|-------|------|----------------|----------|----------|-----------|-----|------|---------|-----------|---------|-------|---------|------|------------------|----------------------------------|---------------|---------|
| | | | | | Region | Lat | Lon | | | | | | | Time (UT) | Apparent (10 ⁻⁶ Disk) | Corr (Sq Deg) | |
| 0894 | | 28 04433 | 0446* | 0506 | N17 | W85 | 5544 | 06 21.7 | 23 | 1N | | | | 165 | | | ADFK |
| | URUM | 28 0443 | 0450 | 0511 | N13 | W88 | 5544 | 06 21.5 | 28 | 2N | | | C | 321 | | | F |
| | ABST | 28 0444 | 0446 | 0450D | N19 | W90 | 5544 | 06 21.3 | 60 | 1N | | | C | 0446 | 87 | | AD |
| | SVTO | 28 0444E | 0446 | 0503 | N18 | W85 | 5544 | 06 21.7 | 190 | SF | | 3 | E | | | | |
| | ABST | 28 0446 | 0456 | 0504 | N18 | W76 | 5544 | 06 22.4 | 18 | 1F | | | C | 0456 | 87 | | DK |
| 0895 | | 28 05202 | 05242 | 0534 | N19 | W78 | 5544 | 06 22.3 | 14 | 1N | | | | 60 | | | AD |
| | ABST | 28 0520 | 0526 | 0539 | N18 | W76 | 5544 | 06 22.4 | 19 | 1N | | | C | 0526 | 87 | | D |
| | URUM | 28 0522 | 0524 | 0530 | N20 | W81 | 5544 | 06 22.0 | 8 | SN | | | C | | 32 | | A |
| 0896 | | 28 05352 | 0541 | 0546 | N20 | E10 | 5569 | 06 29.0 | 11 | SF | | | | 80 | 1.4 | | E |
| | ABST | 28 0535 | 0535U | 0539 | N20 | E10 | 5569 | 06 29.0 | 4 | SF | | | P | 0539 | 131 | 1.4 | E |
| | SVTO | 28 0537 | 0541 | 0553 | N21 | E09 | 5569 | 06 28.9 | 16 | SF | | 3 | E | | 28 | | |
| 0897 | SVTO | 28 0635 | 0643 | 0700 | N19 | W77 | 5544 | 06 22.4 | 25 | SF | | 3 | E | | 20 | | |
| 0898 | | 28 0641 | 0642 | 0646 | N22 | E15 | 5569 | 06 29.4 | 5 | SN | | | | 32 | 0.4 | | D |
| | URUM | 28 0641 | 0642 | 0645 | N23 | E14 | 5569 | 06 29.3 | 4 | SN | | | C | 32 | 0.4 | | D |
| | ISTA | 28 0641 | 0642 | 0647 | N22 | E16 | 5569 | 06 29.5 | 6 | SN | | | V | | | | D |
| 0899 | ABST | 28 0654 | 0656 | 0700 | S15 | E06 | 5563 | 06 28.7 | 6 | SF | | | C | 0656 | 87 | 0.9 | D |
| 0900 | HPR | 28 0731E | | 0733 | N20 | E08 | 5569 | 06 28.9 | 20 | SF | | | | 0731 | 40 | 0.4 | E |
| 0901 | | 28 07412 | 0743 | 0750 | N08 | W05 | 5558 | 06 27.9 | 9 | 1N | | | | 40 | 0.4 | | E |
| | HPR | 28 0741 | 0743 | 0750 | N08 | W06 | 5558 | 06 27.9 | 9 | SF | | | | 0743 | 40 | 0.4 | E |
| | ISTA | 28 0743 | 0743 | 0750 | N08 | W04 | 5558 | 06 28.0 | 7 | 1N | | | V | | | | E |
| 0902 | | 28 07461 | 07472 | 0758 | S16 | E04 | 5563 | 06 28.6 | 12 | 1N | | | | 60 | 0.6 | | EF |
| | HPR | 28 0746 | 0749 | 0800 | S16 | E04 | 5563 | 06 28.6 | 14 | SF | | | | 0749 | 60 | 0.6 | E |
| | ISTA | 28 0747 | 0747 | 0755 | S17 | E05 | 5563 | 06 28.7 | 8 | 1N | | | V | | | | F |
| 0903 | HPR | 28 0808 | 0816 | 0828 | N08 | W06 | 5558 | 06 27.9 | 20 | SF | | | | 0816 | 50 | 0.5 | EU |
| 0904 | | 28 0824* | 0830* | 0930 | N27 | W25 | 5555 | 06 26.4 | 66 | SN | C 4.7 | | | 150 | 2.6 | | EFIT |
| | HPR | 28 0824 | 0835 | 0920 | N25 | W25 | 5555 | 06 26.4 | 56 | SB | | | | 0835 | 160 | 1.8 | EFI |
| | LEAR | 28 0825 | 0830U | 0831D | N27 | W25 | 5555 | 06 26.4 | 60 | SF | | 2 | E | 63 | | | |
| | SVTO | 28 0826 | 0833 | 0917 | N27 | W26 | 5555 | 06 26.3 | 51 | SF | C 4.7 | 3 | E | 59 | | | F |
| | KHAR | 28 0827 | 0830 | 0845U | N28 | W25 | 5555 | 06 26.4 | 18U | SN | | 2 | V | 0830 | | | |
| | URUM | 28 0827 | 0837 | 0920 | N29 | W25 | 5555 | 06 26.4 | 53 | SN | | | C | 161 | 2.1 | | F |
| | ISTA | 28 0829 | 0840 | 0844D | N26 | W24 | 5555 | 06 26.5 | 15D | 1N | | | V | | | | F |
| | CATA | 28 0835E | 0835 | 0915D | N27 | W26 | 5555 | 06 26.3 | 40D | 1B | | 2 | P | 0835 | 281 | 3.5 | T |
| | PURP | 28 0850E | 0851U | 0946 | N25 | W26 | 5555 | 06 26.3 | 56D | 1F | | | C | 0851 | 270 | 3.4 | |
| | YUNN | 28 0855 | 0857 | 0915D | N27 | W26 | 5555 | 06 26.3 | 20D | 1N | | | P | 193 | 2.4 | | F |
| | SVTO | 28 0938 | 0943 | 0947 | N29 | W25 | 5555 | 06 26.4 | 9 | SF | | 3 | E | 15 | | | |
| 0905 | | 28 09182 | 09202 | 0928 | S16 | W42 | 5552 | 06 25.2 | 10 | SN | | | | 82 | 1.2 | | DE |
| | HPR | 28 0918 | 0922 | 0923 | S16 | W42 | 5552 | 06 25.2 | 5 | SN | | | | 0922 | 120 | 1.6 | E |
| | PURP | 28 0919 | 0920 | 0929 | S17 | W43 | 5552 | 06 25.1 | 10 | SN | | | C | 0920 | 57 | 0.9 | E |
| | SVTO | 28 0919 | 0921 | 0930 | S15 | W40 | 5552 | 06 25.4 | 11 | SF | | 3 | E | 72 | | | |
| | URUM | 28 0920 | 0921 | 0929 | S16 | W45 | 5552 | 06 25.0 | 9 | SN | | | C | 80 | 1.2 | | D |
| 0906 | HPR | 28 1022 | 1029 | 1036 | N22 | E12 | 5569 | 06 29.3 | 14 | SF | | | | 1029 | 40 | 0.4 | E |
| 0907 | HPR | 28 1110 | 1113 | 1118 | N08 | W07 | 5558 | 06 27.9 | 8 | SF | | | | 1113 | 60 | 0.6 | E |
| 0908 | HPR | 28 1112 | 1116 | 1125 | S16 | E03 | 5563 | 06 28.7 | 13 | SF | | | | 1116 | 30 | 0.3 | E |
| 0909 | HPR | 28 1120 | 1131 | 1140 | N25 | W27 | 5555 | 06 26.4 | 20 | SN | | | | 1131 | 50 | 0.6 | E |
| 0910 | | 28 1141 | 1153 | 1230 | N20 | E08 | 5569 | 06 29.1 | 49 | SN | | | | 48 | 0.8 | | EFI |
| | RAMY | 28 1139E | 1139U | 1245 | N21 | E08 | 5569 | 06 29.1 | 66D | SF | | 2 | E | 17 | | | F |
| | HPR | 28 1141 | 1153 | 1214 | N20 | E08 | 5569 | 06 29.1 | 33 | SN | | | | 1153 | 80 | 0.8 | EI |

Ha SOLAR FLARES

JUNE 1989

| Grp # | Sta | Start Day | Start (UT) | Max (UT) | End (UT) | Lat | CND | NOAA/ USAF Region | CMP Mo | Dur (Min) | Imp Opt | Xray | Obs See | Type | Time (UT) | Area Measurement | | Remarks | | |
|-------|------|-----------|------------|----------|----------|-----------------|-----|-------------------|--------|-----------|---------|------|---------|------|-----------|----------------------|---------------|---------|------|----|
| | | | | | | | | | | | | | | | | Apparent (10-6 Diak) | Corr (Sq Deg) | | | |
| 0911 | | 28 | 1302* | 1302* | 1344 | N08 | W08 | 5558 | 06 | 27.9 | 42 | SN | C | 8.4 | | 80 | 1.4 | EFK | | |
| | SVTO | 28 | 1302 | 1302 | 1353 | N10 | W09 | 5558 | 06 | 27.9 | 51 | SN | C | 8.4 | 3 | E | 63 | | F | |
| | HTPR | 28 | 1302 | 1304 | 1316 | N08 | W07 | 5558 | 06 | 28.0 | 14 | SB | | | | 1304 | | 1.6 | E | |
| | SVTO | 28 | 1302 | 1320 | 1353 | N10 | W09 | 5558 | 06 | 27.9 | 51 | SN | | | | | 49 | | K | |
| | RAMY | 28 | 1308 | 1319U | 1348D | N07 | W08 | 5558 | 06 | 27.9 | 40D | SF | | | 2 | E | 35 | | | |
| | HTPR | 28 | 1322 | 1331 | 1350 | N08 | W07 | 5558 | 06 | 28.0 | 28 | SN | | | | | 1331 | 120 | 1.2 | E |
| | HOLL | 28 | 1323E | 1327 | 1349 | N08 | W09 | 5558 | 06 | 27.9 | 26D | SF | C | 2.7 | 3 | E | 50 | | | |
| 0912 | HTPR | 28 | 1319 | 1322 | 1329 | N25 | W28 | 5555 | 06 | 26.4 | 10 | SF | | | | 1322 | 10 | 0.1 | | |
| 0913 | SVTO | 28 | 1503 | 1506 | 1515 | S16 | W14 | 5561 | 06 | 27.6 | 12 | SF | | | 3 | E | 22 | | | |
| 0914 | SVTO | 28 | 1616 | 1617 | 1630 | N10 | W11 | 5558 | 06 | 27.8 | 14 | SF | | | 3 | E | 17 | | | |
| 0915 | | 28 | 16265 | 1635 | 1641 | S16 | W45 | 5552 | 06 | 25.3 | 15 | SF | | | | | 19 | 0.3 | F | |
| | HTPR | 28 | 1626 | | 1631D | S16 | W45 | 5552 | 06 | 25.3 | 5D | SF | | | | | 1702 | 20 | 0.3 | |
| | HOLL | 28 | 1631 | 1635 | 1641 | S16 | W45 | 5552 | 06 | 25.3 | 10 | SF | | | 3 | E | 18 | | F | |
| 0916 | | 28 | 16372 | 16391 | 1653 | N27 | W31 | 5555 | 06 | 26.3 | 16 | SN | | | | | 49 | 0.7 | EFV | |
| | HTPR | 28 | 1637 | 1640 | 1655 | N27 | W32 | 5555 | 06 | 26.2 | 18 | SB | | | | | 1640 | 60 | 0.7 | EV |
| | HOLL | 28 | 1638 | 1639 | 1657 | N27 | W31 | 5555 | 06 | 26.3 | 19 | SN | | | 3 | E | 47 | | FE | |
| | PALE | 28 | 1639 | 1639 | 1648 | N29 | W29 | 5555 | 06 | 26.4 | 9 | SF | | | 3 | E | 32 | | F | |
| | SVTO | 28 | 1639 | 1639 | 1651 | N28 | W32 | 5555 | 06 | 26.2 | 12 | SF | | | 3 | E | 28 | | | |
| | RAMY | 28 | 1644E | 1644U | 1655 | N26 | W30 | 5555 | 06 | 26.4 | 11D | SF | | | 1 | E | 79 | | | |
| 0917 | | 28 | 1650* | 16548 | 1710 | N20 | E05 | 5569 | 06 | 29.1 | 20 | SF | | | | | 31 | 0.8 | EF | |
| | HTPR | 28 | 1650 | | 1731D | N19 | E02 | 5569 | 06 | 28.8 | 41D | SF | | | | | 1657 | 80 | 0.8 | E |
| | HOLL | 28 | 1653 | 1654 | 1708 | N20 | E06 | 5569 | 06 | 29.2 | 15 | SF | | | 3 | E | 16 | | | |
| | RAMY | 28 | 1654 | 1655 | 1713 | N20 | E04 | 5569 | 06 | 29.0 | 19 | SF | | | 3 | E | 17 | | F | |
| | PALE | 28 | 1701 | 1702 | 1710 | N21 | E07 | 5569 | 06 | 29.2 | 9 | SF | | | 3 | E | 10 | | F | |
| 0918 | | 28 | 16593 | 17023 | 1715 | S16 | W47 | 5552 | 06 | 25.1 | 16 | SF | | | | | 56 | 1.6 | EF | |
| | HTPR | 28 | 1659 | 1703 | 1725 | S20 | W52 | 5552 | 06 | 24.7 | 26 | SB | | | | | 1703 | 100 | 1.6 | E |
| | SVTO | 28 | 1702 | 1702 | 1710 | S15 | W45 | 5552 | 06 | 25.3 | 8 | SF | | | 3 | E | 48 | | | |
| | PALE | 28 | 1702 | 1702 | 1711 | S14 | W46 | 5552 | 06 | 25.2 | 9 | SF | | | 3 | E | 39 | | F | |
| | RAMY | 28 | 1702 | 1702 | 1712 | S15 | W45 | 5552 | 06 | 25.3 | 10 | SF | | | 3 | E | 50 | | | |
| | HOLL | 28 | 1702 | 1705 | 1717 | S15 | W46 | 5552 | 06 | 25.2 | 15 | SF | | | 3 | E | 45 | | F | |
| | | | | | | | | | | | | | | | | | | 39 | | F |
| 0919 | | 28 | 1738 | 17381 | 1746 | S17 | W45 | 5552 | 06 | 25.3 | 8 | SF | C | 1.6 | | | 39 | | F | |
| | HOLL | 28 | 1738 | 1738 | 1747 | S15 | W46 | 5552 | 06 | 25.2 | 9 | SF | C | 1.6 | 3 | E | 50 | | F | |
| | PALE | 28 | 1738 | 1739 | 1744 | S19 | W43 | 5552 | 06 | 25.4 | 6 | SF | C | 1.6 | 3 | E | 29 | | F | |
| | RAMY | 28 | 1738 | 1739 | 1747 | S16 | W46 | 5552 | 06 | 25.2 | 9 | SF | C | 1.6 | 3 | E | 39 | | F | |
| 0920 | | 28 | 17421 | 17461 | 1813 | N28 | W29 | 5555 | 06 | 26.5 | 31 | SF | C | 2.6 | | | 32 | | EF | |
| | PALE | 28 | 1742 | 1746 | 1813 | N28 | W29 | 5555 | 06 | 26.5 | 31 | SF | C | 2.6 | 3 | E | 26 | | | |
| | HOLL | 28 | 1743 | 1747 | 1813 | N27 | W29 | 5555 | 06 | 26.5 | 30 | SF | C | 2.6 | 3 | E | 38 | | FE | |
| 0921 | | 28 | 1746 | 17461 | 1802 | N09 | W11 | 5558 | 06 | 27.9 | 16 | SF | | | | | 27 | | | |
| | PALE | 28 | 1746 | 1746 | 1750D | N09 | W10 | 5558 | 06 | 28.0 | 4D | SF | | | 3 | E | 18 | | | |
| | RAMY | 28 | 1746 | 1746 | 1803 | N09 | W11 | 5558 | 06 | 27.9 | 17 | SF | | | 3 | E | 30 | | | |
| | HOLL | 28 | 1746 | 1747 | 1800 | N09 | W11 | 5558 | 06 | 27.9 | 14 | SF | | | 3 | E | 33 | | | |
| 0922 | | 28 | 1808 | 18181 | 1914 | N20 | E04 | 5569 | 06 | 29.1 | 66 | 1N | M | 2.4 | | | 239 | | EFUZ | |
| | RAMY | 28 | 1808 | 1818 | 1913 | N20 | E03 | 5569 | 06 | 29.0 | 65 | 1N | M | 2.4 | 3 | E | 222 | | FE | |
| | HOLL | 28 | 1808 | 1819 | 1915 | N19 | E05 | 5569 | 06 | 29.1 | 67 | 2B | M | 2.4 | 3 | E | 294 | | ZU | |
| | PALE | 28 | 1812E | 1819 | 1917D | N20 | E04 | 5569 | 06 | 29.1 | 65D | 1F | M | 2.4 | 3 | E | 201 | | F | |
| 0923 | RAMY | 28 | 1816 | 1817 | 1836 | N08 | W12 | 5558 | 06 | 27.9 | 20 | SF | | | 3 | E | 14 | | F | |
| 0924 | HOLL | 28 | 2215 | 2216 | 2226 | N23 | W07 | 5565 | 06 | 28.4 | 11 | SF | | | 3 | E | 31 | | | |
| | | 28 | 2328 | | 2338 | No Flare Patrol | | | | | | | | | | | | | | |
| 0925 | | 29 | 00132 | 00148 | 0032 | N28 | W33 | 5555 | 06 | 26.4 | 19 | SF | | | | | 28 | | F | |
| | HOLL | 29 | 0013 | 0014 | 0030 | N26 | W33 | 5555 | 06 | 26.4 | 17 | SF | | | 3 | E | 20 | | F | |
| | PALE | 29 | 0015 | 0022 | 0034 | N29 | W33 | 5555 | 06 | 26.4 | 19 | SF | | | 3 | E | 36 | | | |

H α SOLAR FLARES

51
Jun 89

JUNE 1989

| Grp # | Sta | Start Day | Max (UT) | End (UT) | Lat | CMD | NOAA/ USAF | | Dur (Min) | Imp Opt | Xray | Obs See | Type | Time (UT) | Area Measurement | | Remarks | |
|-------|------|-----------|----------|----------|-----------------|-----|------------|--------|-----------|---------|------|---------|------|-----------|----------------------|---------------|---------|---|
| | | | | | | | Region | Mo Day | | | | | | | Apparent (10-6 Disk) | Corr (Sq Deg) | | |
| 0926 | | 29 02571 | 0309* | 0438 | N30 | W26 | 5555 | 06 | 27.1 | 101 | 2M | C 7.3 | | | 575 | 8.1 | EFJKUW | |
| | MITK | 29 0257 | 0312 | 0425 | N30 | W24 | 5555 | 06 | 27.2 | 88 | 1B | | C | 0312 | 400 | 5.1 | FJKW | |
| | PALE | 29 0258 | 0309 | 0425 | N29 | W27 | 5555 | 06 | 27.0 | 87 | 2F | C 7.3 | 3 | E | 346 | | FU | |
| | PURP | 29 0303E | 0318U | 0324D | N28 | W27 | 5555 | 06 | 27.0 | 21D | 3N | | P | 0318 | 1136 | 14.6 | | |
| | TACH | 29 0313E | | 0451 | N29 | W26 | 5555 | 06 | 27.1 | 98D | 3F | | 2 | C | 0313 | 1020 | 13.8 | U |
| | URUM | 29 0315E | 0327 | 0405 | N31 | W28 | 5555 | 06 | 26.9 | 50D | SN | | C | | 113 | 1.5 | F | |
| | ABST | 29 0356E | 0356U | 0523 | N30 | W27 | 5555 | 06 | 27.0 | 87D | 2N | | P | 0356 | 436 | 5.6 | E | |
| 0927 | ABST | 29 0451 | 0454 | 0515 | N19 | E01 | 5569 | 06 | 29.3 | 24 | SF | | C | 0454 | 140 | 1.5 | E | |
| 0928 | SVTO | 29 0550 | 0557 | 0603 | S20 | W22 | 5561 | 06 | 27.6 | 13 | SF | | 3 | E | | 19 | | |
| 0929 | SVTO | 29 0653 | 0703 | 0725 | N06 | W19 | 5558 | 06 | 27.9 | 32 | SF | | 3 | E | | 32 | | |
| 0930 | | 29 07396 | 0745 | 0752 | N26 | W37 | 5555 | 06 | 26.4 | 13 | SF | | | | 16 | | E | |
| | ISTA | 29 0739 | | 0749 | N26 | W35 | 5555 | 06 | 26.6 | 10 | SF | | V | | | | E | |
| | SVTO | 29 0743 | 0745 | 0756 | N26 | W39 | 5555 | 06 | 26.3 | 13 | SF | | 3 | E | 16 | | | |
| | KANZ | 29 0745 | 0753U | 0753D | N26 | W37 | 5555 | 06 | 26.4 | 8D | SF | | V | | | | | |
| 0931 | | 29 08352 | 0838 | 0840 | N08 | W18 | 5558 | 06 | 28.0 | 5 | SN | | | | 60 | 0.6 | E | |
| | ISTA | 29 0835 | | 0839 | N08 | W17 | 5558 | 06 | 28.1 | 4 | SN | | V | | | | E | |
| | HTPR | 29 0837 | 0838 | 0842 | N07 | W20 | 5558 | 06 | 27.9 | 5 | SF | | | 0838 | 60 | 0.6 | E | |
| | | 29 1716 | | 1730 | No Flare Patrol | | | | | | | | | | | | | |
| 0932 | RAMY | 29 1819E | 1819U | 1831 | S18 | W29 | 5561 | 06 | 27.5 | 12D | SF | | 3 | E | | 14 | | F |
| 0933 | HOLL | 29 1854 | 1857 | 1904 | N14 | W56 | 5567 | 06 | 25.5 | 10 | SF | | 3 | E | | 16 | | |
| 0934 | | 29 2010 | 20138 | 2039 | S18 | W31 | 5561 | 06 | 27.5 | 29 | SF | C 2.7 | | | 52 | | K | |
| | HOLL | 29 2010 | 2013 | 2039 | S18 | W31 | 5561 | 06 | 27.5 | 29 | SF | | E | | 50 | | K | |
| | HOLL | 29 2010 | 2021 | 2039 | S18 | W31 | 5561 | 06 | 27.5 | 29 | SF | C 2.7 | 3 | E | 55 | | | |
| 0935 | HOLL | 29 2026 | 2027 | 2032 | N27 | W45 | 5555 | 06 | 26.3 | 6 | SF | | 3 | E | | 15 | | |
| 0936 | | 29 2057 | 2114 | 2342 | N30 | W41 | 5555 | 06 | 26.6 | 165 | 1N | M 3.7 | | | 171 | 1.6 | DFY | |
| | HOLL | 29 2057 | 2114 | 2342 | N32 | W41 | 5555 | 06 | 26.6 | 165 | 2B | M 3.7 | 3 | E | 365 | | F | |
| | RAMY | 29 2214E | 2215U | 2234D | N28 | W39 | 5555 | 06 | 26.9 | 20D | SF | | 1 | E | 45 | | Y | |
| | PURP | 29 2246E | 2248U | 2253D | N29 | W43 | 5555 | 06 | 26.6 | 7D | SF | | P | 2248 | 103 | 1.6 | D | |
| 0937 | HOLL | 29 2128 | 2133 | 2135 | N21 | W12 | 5569 | 06 | 29.0 | 7 | SF | | 3 | E | | 16 | | |
| 0938 | HOLL | 29 2203 | 2204 | 2210 | N21 | W12 | 5569 | 06 | 29.0 | 7 | SF | | 3 | E | | 13 | | |
| 0939 | HOLL | 29 2308 | 2312 | 2329 | N23 | W18 | 5569 | 06 | 28.6 | 21 | SF | | 3 | E | | 44 | | |
| 0940 | HOLL | 29 2326 | 2326 | 2337 | S18 | W31 | 5561 | 06 | 27.6 | 11 | SF | | 3 | E | | 16 | | |
| 0941 | HOLL | 29 2341 | 2341 | 2353 | N20 | W12 | 5569 | 06 | 29.1 | 12 | SF | | 3 | E | | 21 | | |
| 0942 | PURP | 30 0058E | 0100 | 0109D | N15 | E88 | 5573 | 07 | 6.7 | 11D | 1F | | C | 0100 | 113 | | A | |
| 0943 | YUNN | 30 0427 | 0435 | 0448D | S18 | E89 | 5572 | 07 | 7.0 | 21D | | | P | | | | A | |
| | | 30 0503 | | 0504 | No Flare Patrol | | | | | | | | | | | | | |
| 0944 | | 30 06095 | 0615 | 0626 | S17 | E88 | 5572 | 07 | 6.9 | 17 | 1N | | | | 71 | | AD | |
| | PURP | 30 0609 | 0614U | 0629 | S19 | E86 | 5572 | 07 | 6.8 | 20 | 1N | | C | 0614 | 55 | | A | |
| | ABST | 30 0614 | 0615 | 0622 | S15 | E90 | 5572 | 07 | 7.1 | 8 | 1N | | C | 0615 | 87 | | AD | |
| 0945 | | 30 0714* | | 0744 | S14 | E77 | 5572A | 07 | 6.1 | 30 | SN | | | | 65 | | DE | |
| | HTPR | 30 0710E | | 0750 | S16 | E75 | 5572A | 07 | 6.0 | 40D | SN | | | 0715 | 50 | | E | |
| | ISTA | 30 0714 | | 0732 | S14 | E75 | 5572A | 07 | 6.0 | 18 | SB | | V | | | | D | |
| | KHAR | 30 0720E | | 0815U | S13 | E77 | 5572A | 07 | 6.1 | 55U | 1F | | 2 | P | 0727 | 80 | | D |
| | ISTA | 30 0737 | | 0751 | S14 | E80 | 5572A | 07 | 6.4 | 14 | SN | | V | | | | E | |
| 0946 | | 30 08504 | 0853 | 0908 | S16 | W24 | 5563 | 06 | 28.5 | 18 | 1F | | | | 40 | 0.4 | E | |
| | HTPR | 30 0850 | 0853 | 0910 | S17 | W26 | 5563 | 06 | 28.4 | 20 | SF | | | 0853 | 40 | 0.4 | E | |
| | ISTA | 30 0854 | | 0905 | S16 | W21 | 5563 | 06 | 28.8 | 11 | 1F | | V | | | | E | |

H α SOLAR FLARES

JUNE 1989

| Grp # | Sta | Day | Start (UT) | Max (UT) | End (UT) | Lat | CMD | NOAA/USAF | | Dur (Min) | Imp Opt | Xray | Obs See | Type | Time (UT) | Area Measurement | | Remarks |
|-------|------|-----|------------|----------|----------|-----|-----|-----------|--------|-----------|---------|----------|---------|------|-----------|----------------------|---------------|---------|
| | | | | | | | | Region | Mo Day | | | | | | | Apparent (10-6 Disk) | Corr (Sq Deg) | |
| 0947 | ISTA | 30 | 0909 | | 0913 | N21 | W17 | 5569 | 06 | 29.1 | 4 | SB | | V | | | | D |
| 0948 | | 30 | 0913 | 0914 | 0937 | N08 | W33 | 5558 | 06 | 27.9 | 24 | SN | | | | 78 | 1.2 | E |
| | HTPR | 30 | 0913 | 0914 | 0926 | N09 | W32 | 5558 | 06 | 28.0 | 13 | SN | | | 0914 | 100 | 1.2 | E |
| | SVTO | 30 | 0913 | 0914 | 0948 | N08 | W34 | 5558 | 06 | 27.8 | 35 | SF | 2 | E | | 56 | | |
| 0949 | ISTA | 30 | 0917 | | 0931 | N19 | E29 | 5571 | 07 | 2.6 | 14 | 1N | | V | | | | E |
| 0950 | HTPR | 30 | 0936 | 0942 | 0950 | N09 | W32 | 5558 | 06 | 28.0 | 14 | SF | | | 0942 | 40 | 0.5 | E |
| 0951 | | 30 | 11134 | 11205 | 1143 | N09 | W34 | 5558 | 06 | 27.9 | 30 | 1N C 4.8 | | | | 272 | 4.2 | EFI |
| | RAMY | 30 | 1113 | 1120 | 1146 | N08 | W36 | 5558 | 06 | 27.8 | 33 | 1F C 4.8 | 3 | E | | 204 | | |
| | HTPR | 30 | 1114 | 1120 | 1140 | N09 | W33 | 5558 | 06 | 28.0 | 26 | 1N | | | 1120 | 300 | 3.4 | EI |
| | CATA | 30 | 1117 | 1120 | 1140 | N10 | W34 | 5558 | 06 | 27.9 | 230 | 1B | 2 | P | 1120 | 365 | 4.6 | |
| | SVTO | 30 | 1120E | 1122U | 1149D | N08 | W35 | 5558 | 06 | 27.8 | 29D | 1F C 4.8 | 1 | E | | 111 | | F |
| | ATHN | 30 | 1120E | 1125 | 1130D | N08 | W30 | 5558 | 06 | 28.2 | 100 | 1N | 2 | V | 1125 | 382 | 4.6 | |
| 0952 | HTPR | 30 | 1209 | 1210 | 1214 | N14 | W44 | 5557 | 06 | 27.2 | 5 | SF | | | 1210 | 20 | 0.3 | E |
| 0953 | | 30 | 1255* | 13352 | 1347 | N20 | W24 | 5569 | 06 | 28.7 | 52 | SN C 6.2 | | | | 68 | 1.0 | EF12 |
| | HTPR | 30 | 1255 | 1335 | 1345 | N20 | W25 | 5569 | 06 | 28.6 | 50 | SN | | | 1335 | 120 | 1.3 | EI |
| | RAMY | 30 | 1302 | 1335 | 1348 | N20 | W23 | 5569 | 06 | 28.8 | 46 | SF C 6.2 | 3 | E | | 34 | | |
| | HOLL | 30 | 1324 | 1336 | 1347 | N20 | W22 | 5569 | 06 | 28.9 | 23 | SN C 6.2 | 3 | E | | 57 | | FE |
| | KAND | 30 | 1330 | 1337 | 1347 | N20 | W24 | 5569 | 06 | 28.7 | 17 | SB | | P | 1337 | 62 | 0.7 | EZ |
| 0954 | KAND | 30 | 1305 | 1307 | 1311 | S21 | W61 | 5552 | 06 | 25.9 | 6 | SN | | P | 1307 | 62 | 1.6 | E |
| 0955 | | 30 | 14003 | 1406* | 1438 | N20 | W24 | 5569 | 06 | 28.7 | 38 | SF C 6.5 | | | | 56 | 1.1 | EFHK |
| | HTPR | 30 | 1400 | 1406 | 1425 | N20 | W25 | 5569 | 06 | 28.7 | 25 | SN | | | 1406 | 100 | 1.1 | E |
| | HOLL | 30 | 1402 | 1409 | 1444 | N20 | W24 | 5569 | 06 | 28.7 | 42 | SF | | E | | 43 | | K |
| | HOLL | 30 | 1402 | 1429 | 1444 | N20 | W24 | 5569 | 06 | 28.7 | 42 | SF | 3 | E | | 42 | | FE |
| | RAMY | 30 | 1403 | 1428 | 1439 | N18 | W23 | 5569 | 06 | 28.8 | 36 | SF C 6.5 | 3 | E | | 37 | | FH |
| 0956 | HOLL | 30 | 1403 | 1410 | 1422 | N15 | W67 | 5567 | 06 | 25.5 | 19 | SF | 3 | E | | 14 | | |
| 0957 | | 30 | 14501 | 1452* | 1532 | N20 | W23 | 5569 | 06 | 28.8 | 42 | 1N M 2.5 | | | | 115 | 2.4 | EFIKZ |
| | HTPR | 30 | 1450 | 1504 | 1525 | N20 | W26 | 5569 | 06 | 28.6 | 35 | 1B | | | 1504 | 220 | 2.4 | EI |
| | HOLL | 30 | 1451 | 1452 | 1536 | N21 | W21 | 5569 | 06 | 29.0 | 45 | 1N | | E | | 48 | | K |
| | RAMY | 30 | 1451 | 1501 | 1530 | N18 | W23 | 5569 | 06 | 28.9 | 39 | SN M 2.5 | 3 | E | | 84 | | FE |
| | HOLL | 30 | 1451 | 1501 | 1536 | N21 | W21 | 5569 | 06 | 29.0 | 45 | 1N M 2.5 | 3 | E | | 109 | | ZE |
| 0958 | | 30 | 14524 | 1457* | 1521 | S17 | E73 | 5572A | 07 | 6.2 | 29 | SF | | | 1457 | 64 | 2.8 | EF |
| | HTPR | 30 | 1452 | 1457 | 1530 | S16 | E70 | 5572A | 07 | 5.9 | 38 | 1N | | | | 120 | 2.8 | E |
| | HOLL | 30 | 1452 | 1513 | 1530 | S19 | E77 | 5572A | 07 | 6.5 | 38 | SF | 3 | E | | 50 | | F |
| | RAMY | 30 | 1456 | 1457 | 1503 | S17 | E72 | 5572A | 07 | 6.1 | 7 | SF | 3 | E | | 21 | | |
| 0959 | | 30 | 16205 | 1627* | 1656 | N20 | W24 | 5569 | 06 | 28.8 | 36 | SN C 3.3 | | | | 30 | 0.4 | EFIK |
| | HTPR | 30 | 1620 | 1636 | 1655 | N20 | W27 | 5569 | 06 | 28.6 | 35 | SN | | | 1626 | 40 | 0.4 | EI |
| | HOLL | 30 | 1623 | 1627 | 1657 | N21 | W22 | 5569 | 06 | 29.0 | 34 | SN | | E | | 18 | | K |
| | HOLL | 30 | 1623 | 1643 | 1657 | N21 | W22 | 5569 | 06 | 29.0 | 34 | SN C 3.3 | 3 | E | | 37 | | FE |
| | RAMY | 30 | 1625 | 1643 | 1657 | N18 | W25 | 5569 | 06 | 28.8 | 32 | SF C 3.3 | 3 | E | | 26 | | FE |
| 0960 | | 30 | 1658* | 1704* | 1728 | N19 | W25 | 5569 | 06 | 28.8 | 30 | SF C 3.9 | | | | 53 | 1.1 | EFHK |
| | HOLL | 30 | 1658 | 1704 | 1731 | N20 | W25 | 5569 | 06 | 28.8 | 33 | SF | | E | | 65 | | K |
| | HOLL | 30 | 1658 | 1722 | 1731 | N20 | W25 | 5569 | 06 | 28.8 | 33 | SN C 3.9 | 3 | E | | 62 | | FE |
| | RAMY | 30 | 1701 | 1704 | 1715 | N18 | W25 | 5569 | 06 | 28.8 | 14 | SF | 4 | E | | 23 | | |
| | HTPR | 30 | 1717 | 1722 | 1727 | N20 | W27 | 5569 | 06 | 28.6 | 10 | SN | | | 1722 | 100 | 1.1 | E |
| | RAMY | 30 | 1719 | 1722 | 1734 | N18 | W24 | 5569 | 06 | 28.9 | 15 | SF C 3.9 | 4 | E | | 42 | | FH |
| | PALE | 30 | 1720 | 1722 | 1728 | N20 | W24 | 5569 | 06 | 28.9 | 8 | SF C 3.9 | 3 | E | | 27 | | |
| 0961 | | 30 | 17361 | 17389 | 1812 | N20 | W24 | 5569 | 06 | 28.9 | 36 | SN M 2.1 | | | | 91 | 1.6 | EFKU |
| | RAMY | 30 | 1736 | 1739 | 1811 | N19 | W24 | 5569 | 06 | 28.9 | 35 | SF | | E | | 73 | | K |
| | HTPR | 30 | 1736 | 1747 | 1806 | N20 | W26 | 5569 | 06 | 28.7 | 30 | SB | | | 1747 | 150 | 1.6 | E |
| | RAMY | 30 | 1736 | 1747 | 1811 | N19 | W24 | 5569 | 06 | 28.9 | 35 | SN M 2.1 | 4 | E | | 71 | | FE |
| | HOLL | 30 | 1737 | 1738 | 1816 | N21 | W24 | 5569 | 06 | 28.9 | 39 | SN | 3 | E | | 72 | | UE |
| | HOLL | 30 | 1737 | 1747 | 1816 | N21 | W24 | 5569 | 06 | 28.9 | 39 | SF M 2.1 | | E | | 90 | | K |

H α SOLAR FLARES

53
Jun 89

JUNE 1989

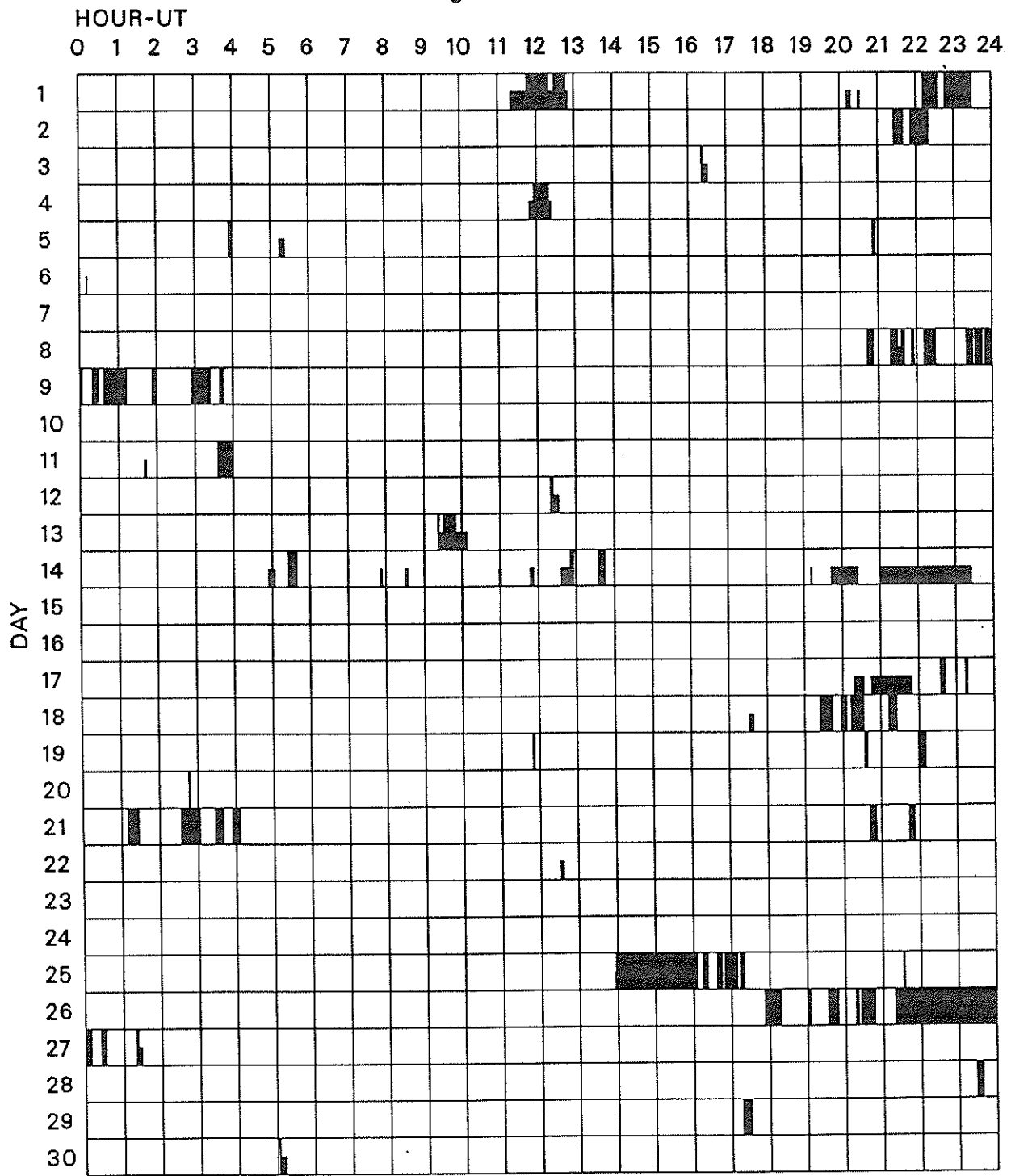
| Grp # | Sta | Day | Start (UT) | Max (UT) | End (UT) | Lat | CND | NOAA/ USAF Region | CMP Mo | Day | Dur (Min) | Imp Opt | Xray | See | Obs Type | Area Measurement | | | Remarks |
|-------|------|-----|------------|----------|----------|-----|-----|-------------------------|-----------|------|--------------|------------|------|-----|-------------|------------------|----------------------|---------------|---------|
| | | | | | | | | | | | | | | | | Time (UT) | Apparent (10-6 Disk) | Corr (Sq Deg) | |
| 0962 | | 30 | 1830 | 18319 | 1857 | N19 | W25 | 5569 | 06 | 28.9 | 27 | SN | C | 3.7 | | | 63 | | EFHK |
| | HOLL | 30 | 1830 | 1831 | 1857 | N20 | W25 | 5569 | 06 | 28.8 | 27 | SN | | | E | | 79 | | K |
| | HOLL | 30 | 1830 | 1840 | 1857 | N20 | W25 | 5569 | 06 | 28.8 | 27 | SN | C | 3.7 | 3 | E | 76 | | EH |
| | RAMY | 30 | 1843E | 1843U | 1848D | N18 | W25 | 5569 | 06 | 28.9 | 5D | SF | C | 3.7 | 2 | E | 34 | | FH |
| 0963 | HOLL | 30 | 1859 | 1901 | 1906 | N08 | W40 | 5558 | 06 | 27.8 | 7 | SF | | | 3 | E | 19 | | F |
| 0964 | HOLL | 30 | 2017 | 2024 | 2040 | N21 | W24 | 5569 | 06 | 29.0 | 23 | SF | | | 3 | E | 32 | | F |
| 0965 | HOLL | 30 | 2112 | 2113 | 2119 | S15 | E78 | 5572 | 07 | 6.8 | 7 | SF | | | 3 | E | 32 | | F |
| 0966 | | 30 | 23494 | 23512 | 2424 | N16 | W24 | 5569 | 06 | 29.2 | 35 | SF | | | | | 26 | | |
| | HOLL | 30 | 2349 | 2351 | 2443 | N16 | W24 | 5569 | 06 | 29.2 | 54 | SF | | | 3 | E | 34 | | |
| | PALE | 30 | 2353 | 2353 | 2404 | N17 | W25 | 5569 | 06 | 29.1 | 11 | SF | | | 3 | E | 17 | | |

"Remarks"

- | | |
|---|---|
| <p>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.</p> | <p>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.</p> |
|---|---|

INTERVALS OF NO FLARE PATROL OBSERVATION FOR PRECEDING SOLAR FLARE TABLE

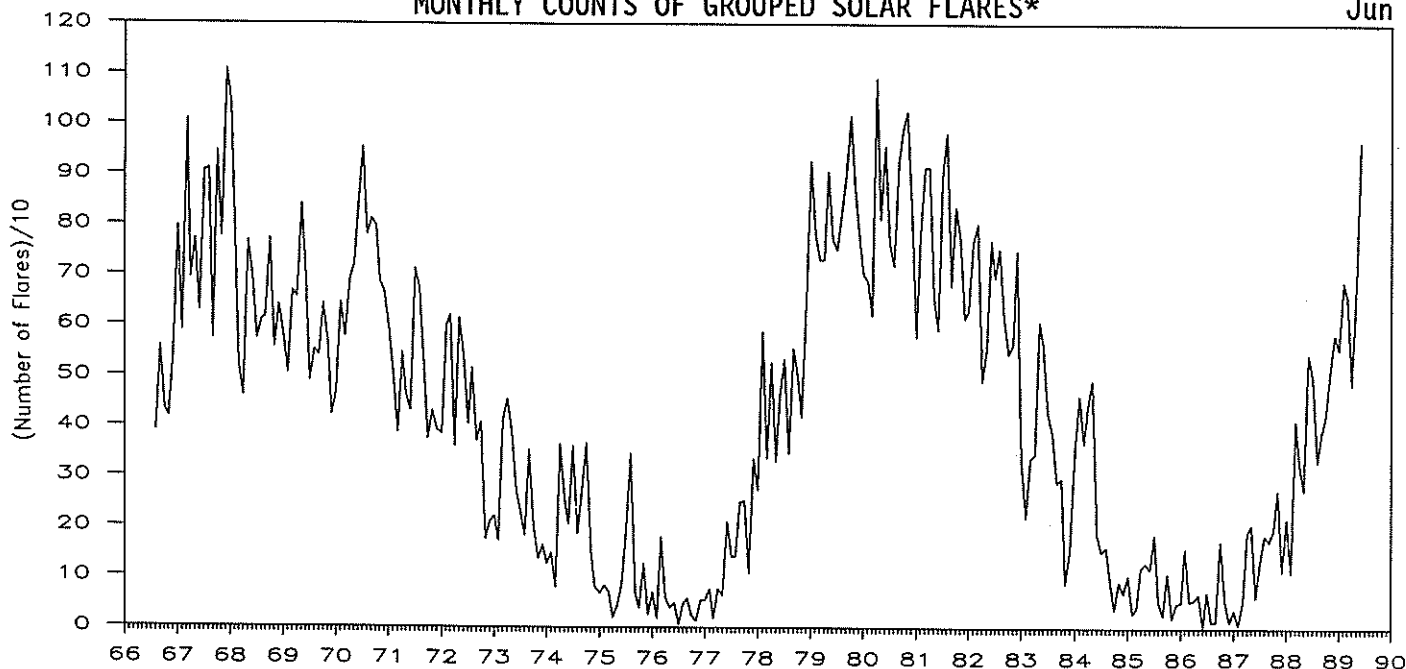
JUNE 1989



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

- | | | | | |
|------------|----------------|-------------|------------|------------|
| Abastumani | Haute Provence | Kandilli | Mitaka | San Vito |
| Athens | Holloman | Kanzelhoehe | Palehua | Tashkent |
| Bucharest | Hurbanovo | Kharkov | Purple Mt. | Urumqi |
| Catania | Istanbul | Learmonth | Ramey | Voroshilov |

MONTHLY COUNTS OF GROUPED SOLAR FLARES*



| Year | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Total |
|------|------|-----|------|------|-----|-----|-----|-----|-----|------|------|------|-------|
| 1966 | | | | | | | | 391 | 558 | 432 | 417 | 543 | 2341 |
| 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 | 544 | 499 | 331 | 390 | 421 | 508 | 584 | 4618 |
| 1989 | 689 | 539 | 658 | 485 | 685 | 966 | | | | | | | 4022 |

*Flare counts are preliminary from July 1982 to present. In particular, the monthly totals for the last 6 months may change significantly, as more sites submit their reports. The term "grouped" means that observations of the same event by different stations have been lumped together and counted as one.

56
Jun 89

SOLAR RADIO EMISSION
Outstanding Occurrences

JUNE 1989

| 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 | 33 | UPIC | 43 NS | 0600.5 | | 622.3 | | | | | |
| | 260 | ONDR | 44 NS | 0610.0E | 1352.5 | 580.00 | 279.0 | | | | |
| | 200 | HIRA | 44 NS | 1930.0E | 2117.0 | 130.00 | 6.0 | 2.0 | | WR | |
| | 245 | PALE | 8 S | 0109.0E | 0109.0 | 1.00 | 98.0 | | | QL=1 ST=3 TYP=3 | |
| | 245 | PALE | 8 S | 0117.0E | 0117.0 | 1.00 | 170.0 | | | QL=1 ST=2 TYP=3 | |
| | 204 | IZMI | 4 S/F | 0600.0 | 0600.5 | 1.0 | 10.0 | 5.0 | | | |
| | 204 | IZMI | 5 S | 0754.0 | 0754.4 | 0.8 | 22.0 | 12.0 | | | |
| | 204 | IZMI | 5 S | 0802.0 | 0802.3 | 0.8 | 455.0 | 200.0 | | | |
| | 808 | ONDR | 5 S | 0806.5 | 0806.5 | 1.5 | 3.0 | | | | |
| | 204 | IZMI | 41 F | 0822.0 | 0824.0 | 2.1 | 70.0 | | | | |
| | 204 | IZMI | 41 F | 1148.0 | 1148.4 | 5.0 | 120.0 | | | | |
| | 430 | KRAK | 8 S | 1200.4 | 1200.5 | 0.3 | 18.0 | | | | |
| | 5900 | KISV | 2 S/F | 1228.6 | 1232.1 | 77.0 | 4.0 | | | | |
| | 245 | SGMR | 8 S | 1352.0E | 1352.0 | U | 110.0 | | | QL=1 ST=2 TYP=3 | |
| | 410 | SGMR | 8 S | 1412.0E | 1412.0 | 1.00 | 66.0 | | | QL=1 ST=2 TYP=3 | |
| | 2800 | OTTA | 20 GRF | 1434.0 | 1441.0 | 30.0 | 7.6 | 3.0 | | | |
| | 2800 | OTTA | 20 GRF | 1529.0 | 1619.0 | 300.0 | 6.8 | 3.0 | | | |
| | 200 | HIRA | 46 C | 2012.4 | 2014.5 | 4.6 | 235.0 | | | 0 | |
| | 245 | PALE | 49 GB | 2014.0E | 2014.0 | U | 680.0 | | | QL=1 ST=2 TYP=6 | |
| | 245 | SGMR | 8 S | 2014.0E | 2014.0 | U | 610.0 | | | QL=1 ST=3 TYP=3 | |
| | 200 | HIRA | 42 SER | 2050.8 | 2130.8 | 42.0 | 295.0 | | | 0 | |
| | 245 | PALE | 4 S/F | 2052.0E | 2053.0 | 3.00 | 120.0 | | | QL=1 ST=2 TYP=5 | |
| | 245 | SGMR | 8 S | 2052.0E | 2053.0 | 1.00 | 110.0 | | | QL=1 ST=2 TYP=3 | |
| | 410 | PALE | 8 S | 2053.0E | 2053.0 | 2.00 | 59.0 | | | QL=1 ST=2 TYP=3 | |
| | 410 | PALE | 8 S | 2130.0E | 2131.0 | 1.00 | 120.0 | | | QL=1 ST=2 TYP=3 | |
| | 410 | SGMR | 8 S | 2130.0E | 2130.0 | 1.00 | 90.0 | | | QL=1 ST=3 TYP=3 | |
| | 245 | SGMR | 8 S | 2130.0E | 2131.0 | 1.00 | 140.0 | | | QL=1 ST=3 TYP=3 | |
| | 245 | PALE | 8 S | 2329.0E | 2330.0 | 2.00 | 220.0 | | | QL=1 ST=2 TYP=3 | |
| | 02 | 33 | UPIC | 43 NS | 0440.0 | | 687.5 | | | | |
| | | 260 | ONDR | 44 NS | 0610.0E | 1014.0 | 580.00 | | | | |
| 127 | | TORN | 43 NS | 0721.0 | | 489.0 | | 1.0 | | V=0 | |
| 2840 | | PEKG | 5 S | 0046.3 | 0047.9 | 3.0 | 54.0 | | | | |
| 2950 | | GORK | 21 GRF | 0329.9 | 0439.0 | 102.7 | 8.0 | | | | |
| 500 | | HIRA | 42 SER | 0417.5 | 0445.6 | 31.5 | 150.0 | | | 0 | |
| 200 | | HIRA | 42 SER | 0417.8 | 0437.4 | 31.0 | 550.0 | | | 0 | |
| 245 | | PALE | 8 S | 0418.0E | 0419.0 | 1.00 | 140.0 | | | QL=1 ST=2 TYP=3 | |
| 245 | | SVTO | 8 S | 0418.0E | 0419.0 | 1.00 | 86.0 | | | QL=1 ST=2 TYP=3 | |
| 650 | | GORK | 46 C | 0433.4 | 0435.1 | | 43.0 | | | | |
| 650 | | GORK | 46 C | 0433.4 | 0433.9 | 2.4 | 9.0 | | | | |
| 100 | | HIRA | 41 F | 0438.9 | 0445.5 | 7.9 | 1000.00 | | | | |
| 650 | | GORK | 46 C | 0440.0 | 0444.6 | | 137.0 | | | | |
| 650 | | GORK | 46 C | 0440.0 | 0445.7 | | 104.0 | | | | |
| 650 | | GORK | 46 C | 0440.0 | 0442.8 | 9.4 | 36.0 | | | | |
| 9300 | | KISV | 4 S/F | 0441.0 | 0443.8 | 9.0 | 37.0 | | | | |
| 5900 | | KISV | 4 S/F | 0441.6 | 0443.8 | 8.4 | 31.0 | | | | |
| 600 | | HUMN | 41 F | 0442.0 | 0445.0 | 8.0 | 60.0 | 8.0 | | | |
| 950 | | GORK | 46 C | 0442.0 | 0444.6 | | 7.0 | | | | |
| 950 | | GORK | 46 C | 0442.0 | 0442.9 | 4.3 | 5.0 | | | | |
| 245 | | SVTO | 8 S | 0443.0E | 0444.0 | 1.00 | 130.0 | | | QL=1 ST=2 TYP=3 | |
| 9100 | | GORK | 3 S | 0443.3 | 0443.7 | 1.3 | 37.0 | | | | |
| 5000 | | KISV | 1 S | 0443.3 | 0443.8 | 1.4 | 15.0 | | | | |
| 2950 | | GORK | 3 S | 0443.4 | 0443.9 | 1.1 | 9.0 | | | | |
| 610 | | PALE | 8 S | 0444.0E | 0444.0 | U | 95.0 | | | QL=1 ST=3 TYP=3 | |
| 245 | | PALE | 49 GB | 0445.0E | 0445.0 | 1.00 | 730.0 | | | QL=1 ST=3 TYP=6 | |
| 410 | | PALE | 8 S | 0445.0E | 0445.0 | 1.00 | 60.0 | | | QL=1 ST=3 TYP=3 | |
| 245 | | SVTO | 49 GB | 0445.0E | 0445.0 | 1.00 | 670.0 | | | QL=1 ST=2 TYP=6 | |
| 410 | | SVTO | 8 S | 0445.0E | 0445.0 | 1.00 | 63.0 | | | QL=1 ST=3 TYP=3 | |
| 2950 | | GORK | 20 GRF | 0532.5 | 0600.0 | 60.0 | 8.0 | | | | |
| 410 | LEAR | 8 S | 0603.0E | 0603.0 | U | 17.0 | | | QL=1 ST=2 TYP=3 | | |
| 245 | LEAR | 8 S | 0603.0E | 0603.0 | 2.00 | 130.0 | | | QL=1 ST=2 TYP=3 | | |
| 245 | SVTO | 8 S | 0603.0E | 0603.0 | U | 130.0 | | | QL=1 ST=2 TYP=3 | | |
| 100 | HIRA | 42 SER | 0603.1 | | 11.7 | 1000.00 | | | | | |
| 200 | HIRA | 42 SER | 0603.2 | 0603.4 | 17.8 | 390.0 | | | 0 | | |
| 204 | IZMI | 41 F | 0603.3 | 0603.6 | 11.0 | 310.0 | | | | | |
| 30 | POTS | 42 SER | 0603.4 | 0603.6 | 11.1 | 14000.00 | | | | | |
| 234 | POTS | 42 SER | 0603.4 | 0603.6 | 11.6 | 220.0 | | | | | |
| 950 | GORK | 2 S/F | 0604.1 | 0604.9 | 2.2 | 2.0 | | | | | |
| 650 | GORK | 2 S/F | 0604.4 | 0604.9 | 0.9 | 6.0 | | | | | |

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

57
Jun 89

JUNE 1989

| Day | Freq | Sta | Type | Start (UT) | Time of Maximum (UT) | Duration (Min) | Flux Density Peak (10 ⁻²² W/m ² Hz) | Flux Density Mean | Int | Remarks |
|------|------|--------|---------|------------|----------------------|----------------|---|-------------------|-----------------|-----------------|
| 02 | 245 | LEAR | 8 S | 0610.0E | 0610.0 | U | 130.0 | | | QL=1 ST=2 TYP=3 |
| | 2950 | GORK | 20 GRF | 0635.5 | 0851.0 | 165.1 | 13.0 | | | |
| | 650 | GORK | 21 GRF | 0706.3 | 0719.5 | 20.9 | 4.0 | | | |
| | 600 | HUMN | 4 S/F | 0709.0 | 0714.5 | 17.0 | 15.0 | 6.0 | | |
| | 650 | GORK | 4 S/F | 0709.6 | 0713.4 | 9.9 | 59.0 | | | |
| | 536 | ONDR | 7 C | 0710.0 | 0712.0 | 40.0 | 43.0 | | | |
| | 30 | POTS | 4 S/F | 0710.2 | 0712.5 | 8.3 | 4000.0 | | | |
| | 950 | GORK | 2 S/F | 0710.4 | 0712.4 | 4.6 | 8.0 | | | |
| | 810 | KRAK | 4 S/F | 0711.5 | 0716.0 | | 10.0 | | | |
| | 810 | KRAK | 4 S/F | 0711.5 | 0712.2 | 6.0 | 26.0 | 5.0 | | |
| | 100 | HIRA | 42 SER | 0711.5 | 0713.3 | 12.0 | 920.0 | | | |
| | 500 | HIRA | 46 C | 0711.5 | 0713.8 | 3.5 | 60.0 | | | 0 |
| | 200 | HIRA | 42 SER | 0711.6 | 0714.5 | 16.5 | 620.0 | | | WL |
| | 430 | KRAK | 4 S/F | 0711.7 | 0713.5 | | 95.0 | | | |
| | 430 | KRAK | 4 S/F | 0711.7 | 0711.9 | 3.7 | 94.0 | 17.0 | | |
| | 610 | LEAR | 4 S/F | 0712.0E | 0713.0 | 3.00 | 32.0 | | | QL=1 ST=2 TYP=3 |
| | 410 | LEAR | 8 S | 0712.0E | 0712.0 | 2.00 | 71.0 | | | QL=1 ST=2 TYP=3 |
| | 245 | LEAR | 49 GB | 0712.0E | 0713.0 | 3.00 | 510.0 | | | QL=1 ST=2 TYP=6 |
| | 204 | IZMI | 41 F | 0712.0 | 0714.0 | 12.0 | 500.0 | | | |
| | 234 | POTS | 4 S/F | 0712.5E | 0713.7U | 3.50 | 650.0U | | | |
| | 5900 | KISV | 2 S/F | 0818.0 | 0819.8 | 8.0 | 5.0 | | | |
| | 200 | HIRA | 41 F | 0839.6 | 0856.1 | 19.8 | 380.0 | | | WL |
| | 536 | ONDR | 7 C | 0840.0 | 0857.0 | 25.0 | 78.0 | | | |
| | 234 | POTS | 42 SER | 0840.0 | 0858.7 | 21.5 | 300.0 | | | |
| | 30 | POTS | 42 SER | 0840.1 | 0858.7 | 27.9 | 4000.0 | | | |
| | 204 | IZMI | 42 SER | 0840.3 | 0858.0 | 20.0 | 510.0 | | | |
| | 100 | HIRA | 42 SER | 0840.3 | 0856.8 | 31.7 | 570.0 | | | |
| | 650 | GORK | 41 F | 0840.4 | 0857.2 | | 83.0 | | | |
| | 650 | GORK | 41 F | 0840.4 | 0840.7 | 21.3 | 18.0 | | | |
| | 650 | GORK | 41 F | 0840.4 | 0844.9 | | 11.0 | | | |
| | 430 | KRAK | 41 F | 0840.5 | 0842.0 | 6.8 | 35.0 | 3.0 | | |
| | 950 | GORK | 2 S/F | 0840.5 | 0841.5 | 6.5 | 2.0 | | | |
| | 810 | KRAK | 8 S | 0840.9 | 0840.9 | 0.1 | 7.0 | | | |
| | 600 | HUMN | 41 F | 0841.0 | 0849.0 | 9.0 | 39.0 | 6.0 | | |
| | 950 | GORK | 46 C | 0849.5 | 0857.5 | 10.5 | 6.0 | | | |
| | 950 | GORK | 46 C | 0849.5 | 0858.7 | | 6.0 | | | |
| | 245 | LEAR | 8 S | 0851.0E | 0851.0 | U | 64.0 | | | QL=1 ST=2 TYP=3 |
| | 430 | KRAK | 46 C | 0851.0 | 0857.2 | 10.0 | 150.0 | 18.0 | | |
| | 245 | LEAR | 4 S/F | 0855.0E | 0858.0 | 5.00 | 230.0 | | | QL=1 ST=2 TYP=5 |
| | 245 | SVTO | 4 S/F | 0855.0E | 0858.0 | 3.00 | 240.0 | | | QL=1 ST=2 TYP=3 |
| | 410 | LEAR | 4 S/F | 0856.0E | 0857.0 | 4.00 | 110.0 | | | QL=1 ST=2 TYP=5 |
| | 1470 | POTS | 4 S/F | 0856.6 | 0857.5 | 4.4 | 6.0 | | | |
| | 610 | LEAR | 8 S | 0857.0E | 0858.0 | 2.00 | 55.0 | | | QL=1 ST=2 TYP=5 |
| | 410 | SVTO | 8 S | 0857.0E | 0857.0 | U | 100.0 | | | QL=1 ST=2 TYP=3 |
| | 810 | KRAK | 41 F | 0857.0 | 0857.2 | 2.5 | 29.0 | 4.0 | | |
| | 1470 | POTS | 32 ABS | 0901.0 | 0933.5 | 69.0 | 6.0 | | | |
| | 9500 | POTS | 32 ABS | 0902.2 | 0921.4 | 37.0 | 5.0 | | | |
| | 2950 | GORK | 21 GRF | 0938.3 | 1013.5 | 141.7 | 8.0 | | | |
| | 204 | IZMI | 41 F | 0957.0 | 0958.0 | 3.0 | 100.0 | | | |
| | 234 | POTS | 4 S/F | 1011.5 | 1013.8 | 6.0 | 2500.0 | | | |
| 204 | IZMI | 41 F | 1011.6 | 1017.0 | 6.0 | 170.0 | | | | |
| 33 | UPIC | 48 C | 1011.7 | | 5.5 | | | | | |
| 30 | POTS | 4 S/F | 1011.7 | 1014.0U | 5.5 | 13000.00 | | | | |
| 430 | KRAK | 4 S/F | 1012.0 | 1014.0 | 4.5 | 210.00 | 50.0 | | | |
| 536 | ONDR | 5 S | 1012.7 | 1014.0 | 2.0 | 142.0 | | | | |
| 245 | SGMR | 49 GB | 1013.0E | 1014.0 | 2.00 | 1800.0 | | | QL=1 ST=2 TYP=6 | |
| 2695 | SGMR | 8 S | 1013.0E | 1014.0 | 2.00 | 120.0 | | | QL=1 ST=2 TYP=3 | |
| 245 | SVTO | 49 GB | 1013.0E | 1014.0 | 1.00 | 1800.0 | | | QL=1 ST=2 TYP=6 | |
| 2950 | GORK | 3 S | 1013.4 | 1014.2 | 3.1 | 16.0 | | | | |
| 9500 | POTS | 29 PBI | 1013.4 | 1014.3 | 9.6 | 23.0 | | | | |
| 808 | ONDR | 5 S | 1013.5 | 1014.2 | 4.0 | 88.0 | | | | |
| 3000 | POTS | 4 S/F | 1013.5 | 1014.4 | 1.5U | 65.0 | | | | |
| 1470 | POTS | 4 S/F | 1013.5 | 1014.9 | 6.5 | 136.0 | | | | |
| 9100 | GORK | 1 S | 1013.6 | 1014.2 | 5.3 | 29.0 | | | | |
| 3100 | CRIM | 3 S | 1013.6 | 1014.3 | 2.0 | 114.0 | 38.0 | | | |
| 650 | GORK | 4 S/F | 1013.6 | 1014.6 | 2.0 | 159.0 | | | | |
| 5900 | KISV | 4 S/F | 1013.7 | 1014.2 | 3.4 | 29.0 | | | | |
| 810 | KRAK | 4 S/F | 1013.8 | 1014.2 | 1.6 | 240.00 | 50.0 | | | |
| 9300 | KISV | 2 S/F | 1013.9 | 1014.2 | 2.7 | 28.0 | | | | |

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

JUNE 1989

| Day | Freq | Sta | Type | Start (UT) | Time of Maximum (UT) | Duration (Min) | Flux Density Peak (10 ⁻²² W/m ² Hz) | Flux Density Mean | Int | Remarks | |
|------|-------|--------|---------|------------|----------------------|----------------|---|-------------------|-----|-----------------|-----------------|
| 02 | 1415 | SGMR | 8 S | 1014.0E | 1014.0 | 1.00 | 140.0 | | | QL=1 ST=2 TYP=3 | |
| | 410 | SGMR | 49 GB | 1014.0E | 1014.0 | 1.00 | 890.0 | | | QL=1 ST=2 TYP=6 | |
| | 610 | SGMR | 8 S | 1014.0E | 1014.0 | 1.00 | 240.0 | | | QL=1 ST=2 TYP=3 | |
| | 410 | SVTO | 49 GB | 1014.0E | 1014.0 | 1.00 | 600.0 | | | QL=1 ST=2 TYP=6 | |
| | 2695 | SVTO | 8 S | 1014.0E | 1014.0 | 1.00 | 70.0 | | | QL=1 ST=3 TYP=3 | |
| | 1415 | SVTO | 8 S | 1014.0E | 1014.0 | 1.00 | 130.0 | | | QL=1 ST=2 TYP=3 | |
| | 15000 | KISV | 45 C | 1014.0 | 1015.1 | | 13.0 | | | | |
| | 15000 | KISV | 45 C | 1014.0 | 1014.2 | 1.7 | 17.0 | | | | |
| | 600 | HUMN | 4 S/F | 1014.0 | 1014.5 | 2.0 | 120.0 | 25.0 | | | |
| | 245 | SGMR | 8 S | 1201.0E | 1201.0 | U | 160.0 | | | | QL=1 ST=2 TYP=3 |
| | 245 | SVTO | 8 S | 1201.0E | 1201.0 | 1.00 | 110.0 | | | | QL=1 ST=3 TYP=3 |
| | 410 | SVTO | 8 S | 1201.0E | 1201.0 | 1.00 | 56.0 | | | | QL=1 ST=3 TYP=3 |
| | 1470 | POTS | 4 S/F | 1202.5 | 1203.8 | 2.5 | 13.0 | | | | |
| | 600 | HUMN | 3 S | 1203.5 | 1204.0 | 1.0 | 10.0 | 4.0 | | | |
| | 2800 | OTTA | 40 F | 1328.0 | 1430.0 | 90.0 | -4.0 | 1.0 | | | |
| | 234 | POTS | 42 SER | 1353.8 | 1408.4 | 16.2 | 935.0 | | | | |
| | 30 | POTS | 42 SER | 1355.0 | 1402.4 | 24.5 | 3000.00 | | | | |
| | 245 | SGMR | 8 S | 1402.0E | 1402.0 | U | 69.0 | | | | QL=1 ST=2 TYP=3 |
| | 245 | SGMR | 8 S | 1523.0E | 1523.0 | U | 250.0 | | | | QL=1 ST=2 TYP=3 |
| | 245 | SVTO | 8 S | 1523.0E | 1523.0 | U | 180.0 | | | | QL=1 ST=2 TYP=3 |
| | 245 | SGMR | 8 S | 1550.0E | 1550.0 | U | 300.0 | | | | QL=1 ST=2 TYP=3 |
| | 245 | SVTO | 8 S | 1550.0E | 1550.0 | U | 210.0 | | | | QL=1 ST=2 TYP=3 |
| | 8800 | SVTO | 49 GB | 1550.0E | 1602.0 | 490.00 | 1100.0 | | | | QL=1 ST=1 TYP=7 |
| | 2800 | OTTA | 47 GB | 1557.0 | 1604.0 | 11.5 | 598.0 | 180.0 | | | |
| | 2695 | SGMR | 49 GB | 1558.0E | 1603.0 | 17.00 | 460.0 | | | | QL=1 ST=2 TYP=7 |
| | 2695 | SVTO | 49 GB | 1558.0E | 1603.0 | 13.00 | 450.0 | | | | QL=1 ST=3 TYP=7 |
| | 1415 | SGMR | 49 GB | 1558.0E | 1600.0 | 25.00 | 620.0 | | | | QL=1 ST=2 TYP=7 |
| | 4995 | SVTO | 49 GB | 1559.0E | 1602.0 | 13.00 | 520.0 | | | | QL=1 ST=3 TYP=7 |
| | 8800 | SVTO | 49 GB | 1559.0E | 1602.0 | 13.00 | 1100.0 | | | | QL=1 ST=3 TYP=7 |
| | 1415 | SVTO | 49 GB | 1559.0E | 1600.0 | 12.00 | 590.0 | | | | QL=1 ST=3 TYP=7 |
| | 15400 | SGMR | 49 GB | 1559.0E | 1602.0 | 28.00 | 1100.0 | | | | QL=1 ST=2 TYP=7 |
| | 4995 | SGMR | 49 GB | 1559.0E | 1602.0 | 24.00 | 630.0 | | | | QL=1 ST=2 TYP=7 |
| | 610 | SGMR | 49 GB | 1559.0E | 1602.0 | 23.00 | 4200.0 | | | | QL=1 ST=2 TYP=7 |
| | 8800 | SGMR | 49 GB | 1559.0E | 1602.0 | 28.00 | 1400.0 | | | | QL=1 ST=2 TYP=7 |
| | 8400 | BERN | 46 C | 1559.0 | 1602.3 | 14.0 | 733.0 | | | | |
| | 5200 | BERN | 46 C | 1559.0 | 1602.3 | 14.0 | 487.0 | | | | |
| | 3200 | BERN | 46 C | 1559.0 | 1602.3 | 14.0 | 265.0 | | | | |
| | 11800 | BERN | 46 C | 1559.0 | 1602.3 | 14.0 | 540.0 | | | | |
| | 15400 | SVTO | 49 GB | 1600.0E | 1602.0 | 12.00 | 1100.0 | | | | QL=1 ST=3 TYP=7 |
| | 410 | SGMR | 49 GB | 1600.0E | 1603.0 | 25.00 | 1900.0 | | | | QL=1 ST=2 TYP=7 |
| | 600 | HUMN | 46 C | 1600.0 | 1602.7 | 35.0 | 544.0 | 64.0 | | | |
| | 410 | SVTO | 49 GB | 1601.0E | 1602.0 | 13.00 | 1100.0 | | | | QL=1 ST=3 TYP=7 |
| | 610 | SVTO | 49 GB | 1602.0E | 1604.0 | 9.00 | 2500.0 | | | | QL=1 ST=3 TYP=7 |
| | 245 | SGMR | 49 GB | 1602.0E | 1609.0 | 22.00 | 6900.0 | | | | QL=1 ST=2 TYP=7 |
| | 245 | SVTO | 49 GB | 1602.0E | 1606.0 | 20.00 | 5100.0 | | | | QL=1 ST=3 TYP=7 |
| | 2800 | OTTA | 29 PBI | 1608.5 | 1608.5 | 158.0 | 24.9 | 12.0 | | | |
| | 2800 | OTTA | 4 S/F | 1608.5 | 1610.7 | 31.0 | 176.4 | 53.0 | | | |
| | 245 | SVTO | 4 S/F | 1628.0E | 1632.0 | 6.00 | 140.0 | | | | QL=1 ST=3 TYP=3 |
| | 245 | PALE | 4 S/F | 1630.0E | 1632.0 | 4.00 | 190.0 | | | | QL=1 ST=2 TYP=3 |
| | 245 | SGMR | 4 S/F | 1630.0E | 1632.0 | 4.00 | 190.0 | | | | QL=1 ST=2 TYP=3 |
| 410 | SGMR | 4 S/F | 1630.0E | 1631.0 | 4.00 | 73.0 | | | | QL=1 ST=2 TYP=3 | |
| 610 | PALE | 8 S | 1631.0E | 1631.0 | 1.00 | 140.0 | | | | QL=1 ST=2 TYP=3 | |
| 410 | PALE | 8 S | 1631.0E | 1632.0 | 2.00 | 66.0 | | | | QL=1 ST=2 TYP=3 | |
| 610 | SGMR | 4 S/F | 1631.0E | 1632.0 | 3.00 | 180.0 | | | | QL=1 ST=2 TYP=3 | |
| 410 | SVTO | 8 S | 1631.0E | 1633.0 | 2.00 | 62.0 | | | | QL=1 ST=3 TYP=3 | |
| 610 | SVTO | 4 S/F | 1631.0E | 1632.0 | 3.00 | 160.0 | | | | QL=1 ST=2 TYP=3 | |
| 2800 | OTTA | 20 GRF | 1732.0 | 1736.5 | 33.0 | 8.1 | 2.0 | | | | |
| 610 | PALE | 8 S | 1755.0E | 1756.0 | 1.00 | 65.0 | | | | QL=1 ST=2 TYP=3 | |
| 245 | PALE | 8 S | 1755.0E | 1756.0 | 1.00 | 340.0 | | | | QL=1 ST=2 TYP=3 | |
| 245 | SGMR | 8 S | 1755.0E | 1756.0 | 1.00 | 330.0 | | | | QL=1 ST=2 TYP=3 | |
| 610 | SGMR | 8 S | 1756.0E | 1756.0 | U | 73.0 | | | | QL=1 ST=2 TYP=3 | |
| 600 | HUMN | 4 S/F | 1756.0 | 1756.8 | 3.0 | 43.0 | 6.0 | | | | |
| 245 | SGMR | 4 S/F | 1812.0E | 1816.0 | 6.00 | 470.0 | | | | QL=1 ST=2 TYP=5 | |
| 610 | PALE | 49 GB | 1813.0E | 1815.0 | 2.00 | 860.0 | | | | QL=1 ST=2 TYP=6 | |
| 245 | PALE | 4 S/F | 1813.0E | 1816.0 | 3.00 | 430.0 | | | | QL=1 ST=2 TYP=5 | |
| 610 | SGMR | 49 GB | 1813.0E | 1815.0 | 5.00 | 1100.0 | | | | QL=1 ST=2 TYP=6 | |
| 600 | HUMN | 4 S/F | 1814.0 | 1816.0 | 5.0 | 373.0 | 34.0 | | | | |
| 410 | PALE | 8 S | 1815.0E | 1815.0 | U | 330.0 | | | | QL=1 ST=2 TYP=3 | |
| 1415 | SGMR | 4 S/F | 1815.0E | 1817.0 | 3.00 | 140.0 | | | | QL=1 ST=2 TYP=5 | |

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

59
Jun 89

JUNE 1989

| Day | Freq Sta | Type | Start (UT) | Time of Maximum (UT) | Duration (Min) | Flux Density | | Int | Remarks |
|-----------|------------|---------|------------|----------------------|----------------|------------------------|------|-----------------|-----------------|
| | | | | | | Peak (10 -22 W/m 2 Hz) | Mean | | |
| 02 | 1415 PALE | 8 S | 1817.0E | 1817.0 | 1.00 | 140.0 | | | QL=1 ST=2 TYP=3 |
| | 410 PALE | 8 S | 1820.0E | 1820.0 | U | 150.0 | | | QL=1 ST=2 TYP=3 |
| | 410 SGMR | 8 S | 1820.0E | 1820.0 | 1.00 | 220.0 | | | QL=1 ST=2 TYP=3 |
| | 200 HIRA | 41 F | 2038.0 | 2118.1 | 61.0 | 130.0 | | | ML |
| | 100 HIRA | 41 F | 2116.8 | 2118.3 | 3.2 | 365.0 | | | |
| | 410 PALE | 8 S | 2200.0E | 2200.0 | 1.00 | 86.0 | | | QL=1 ST=2 TYP=3 |
| | 410 LEAR | 8 S | 2327.0E | 2327.0 | 1.00 | 58.0 | | | QL=1 ST=2 TYP=3 |
| 03 | 260 ONDR | 44 NS | 0600.0E | 1016.5 | 590.00 | | | | |
| | 245 PALE | 44 NS | 1855.0E | 1906.0 | 61.00 | 84.0 | | | QL=1 ST=2 TYP=1 |
| | 200 HIRA | 43 NS | 2128.0 | 0331.0 | 300.0 | 19.0 | 7.0 | | WL |
| | 200 HIRA | 46 C | 0129.6 | 0130.0 | 1.3 | 688.0 | | | O |
| | 245 LEAR | 8 S | 0130.0E | 0130.0 | 1.00 | 390.0 | | | QL=1 ST=2 TYP=3 |
| | 245 PALE | 8 S | 0130.0E | 0130.0 | 1.00 | 420.0 | | | QL=1 ST=2 TYP=3 |
| | 2950 GORK | 21 GRF | 0239.0E | 0902.3 | 561.00 | 15.0 | | | |
| | 2950 GORK | 3 S | 0239.8 | 0240.0 | 2.3 | 18.0 | | | |
| | 9100 GORK | 21 GRF | 0306.0E | 0331.8 | 399.00 | 17.0 | | | |
| | 200 HIRA | 42 SER | 0307.6 | 0310.3 | 27.7 | 3000.0 | | | O |
| | 500 HIRA | 46 C | 0308.5 | 0316.8 | | 140.0 | | | ML |
| | 500 HIRA | 46 C | 0308.5 | 0312.9 | 12.5 | 550.0 | 60.0 | | ML |
| | 100 HIRA | 42 SER | 0308.8 | | 13.9 | 1000.00 | | | |
| | 950 GORK | 4 S/F | 0309.0 | 0313.0 | 9.0 | 78.0 | | | |
| | 2695 LEAR | 4 S/F | 0309.0E | 0310.0 | 8.00 | 140.0 | | | QL=1 ST=2 TYP=5 |
| | 245 LEAR | 49 GB | 0309.0E | 0310.0 | 5.00 | 1400.0 | | | QL=1 ST=2 TYP=6 |
| | 4995 LEAR | 4 S/F | 0309.0E | 0310.0 | 8.00 | 120.0 | | | QL=1 ST=2 TYP=5 |
| | 410 LEAR | 49 GB | 0309.0E | 0312.0 | 8.00 | 1600.0 | | | QL=1 ST=2 TYP=7 |
| | 610 LEAR | 4 S/F | 0309.0E | 0313.0 | 8.00 | 340.0 | | | QL=1 ST=2 TYP=5 |
| | 8800 LEAR | 4 S/F | 0309.0E | 0313.0 | 6.00 | 170.0 | | | QL=1 ST=2 TYP=5 |
| | 15400 LEAR | 4 S/F | 0309.0E | 0313.0 | 6.00 | 260.0 | | | QL=1 ST=2 TYP=5 |
| | 2695 PALE | 8 S | 0309.0E | 0310.0 | 2.00 | 130.0 | | | QL=1 ST=2 TYP=3 |
| | 8800 PALE | 8 S | 0309.0E | 0310.0 | 1.00 | 66.0 | | | QL=1 ST=2 TYP=3 |
| | 245 PALE | 49 GB | 0309.0E | 0310.0 | 4.00 | 1800.0 | | | QL=1 ST=2 TYP=6 |
| | 2950 GORK | 46 C | 0309.0 | 0310.2 | 8.8 | 121.0 | | | |
| | 2950 GORK | 46 C | 0309.0 | 0310.5 | | 139.0 | | | |
| | 2950 GORK | 46 C | 0309.0 | 0316.8 | | 23.0 | | | |
| | 2950 GORK | 46 C | 0309.0 | 0312.9 | | 73.0 | | | |
| | 650 GORK | 46 C | 0309.3 | 0313.4 | | 555.0 | | | |
| | 650 GORK | 46 C | 0309.3 | 0310.5 | 10.6 | 72.0 | | | |
| | 650 GORK | 46 C | 0309.3 | 0316.8 | | 69.0 | | | |
| | 9100 GORK | 46 C | 0309.5 | 0313.0 | | 195.0 | | | |
| | 9100 GORK | 46 C | 0309.5 | 0310.5 | 8.7 | 97.0 | | | |
| | 1415 LEAR | 4 S/F | 0310.0E | 0313.0 | 7.00 | 130.0 | | | QL=1 ST=2 TYP=3 |
| | 410 PALE | 8 S | 0310.0E | 0310.0 | U | 110.0 | | | QL=1 ST=2 TYP=3 |
| | 1415 PALE | 4 S/F | 0310.0E | 0313.0 | 3.00 | 120.0 | | | QL=1 ST=2 TYP=3 |
| | 2840 PEKG | 45 C | 0310.0E | 0311.9 | 10.00 | 125.0 | | | |
| | 15400 PALE | 8 S | 0312.0E | 0313.0 | 2.00 | 270.0 | | | QL=1 ST=2 TYP=3 |
| | 610 PALE | 8 S | 0312.0E | 0313.0 | 2.00 | 320.0 | | | QL=1 ST=2 TYP=3 |
| | 9100 GORK | 2 S/F | 0327.7 | 0329.5 | 3.5 | 15.0 | | | |
| 5900 KISV | 23 GRF | 0344.4 | 0349.2 | 14.5 | 7.0 | | | | |
| 9100 GORK | 1 S | 0344.5 | 0345.6 | 3.5 | 7.0 | | | | |
| 5900 KISV | 2 S/F | 0344.5 | 0345.8 | 3.7 | 15.0 | | | | |
| 2950 GORK | 3 S | 0345.0 | 0345.9 | 3.0 | 8.0 | | | | |
| 204 IZMI | 41 F | 0631.0 | 0633.0 | 2.0 | 200.0 | | | | |
| 245 LEAR | 8 S | 0632.0E | 0632.0 | 1.00 | 110.0 | | | QL=1 ST=2 TYP=3 | |
| 410 LEAR | 8 S | 0632.0E | 0632.0 | 1.00 | 51.0 | | | QL=1 ST=2 TYP=3 | |
| 204 IZMI | 42 SER | 0706.4 | 0706.6 | 19.0 | 160.0 | | | | |
| 200 HIRA | 42 SER | 0707.3 | 0724.4 | 18.5 | 136.0 | | | O | |
| 430 KRAK | 2 S/F | 0716.5 | 0717.1 | 1.5 | 11.0 | 3.0 | | | |
| 9500 POTS | 1 S | 0716.8 | 0718.0 | 5.7 | 5.0 | | | | |
| 650 GORK | 2 S/F | 0721.5 | 0723.1 | 3.8 | 3.0 | | | | |
| 430 KRAK | 2 S/F | 0722.0 | 0723.0 | 2.0 | 16.0 | 4.0 | | | |
| 245 LEAR | 8 S | 0724.0E | 0724.0 | 1.00 | 77.0 | | | QL=1 ST=2 TYP=3 | |
| 245 SVTO | 8 S | 0724.0E | 0724.0 | 1.00 | 83.0 | | | QL=1 ST=2 TYP=3 | |
| 9500 POTS | 1 S | 0747.4 | 0748.2 | 6.1 | 3.0 | | | | |
| 9500 POTS | 20 GRF | 0758.8 | 0807.0 | 21.0 | 9.0 | | | | |
| 204 IZMI | 41 F | 0801.0 | 0815.0 | 14.8 | 250.0 | | | | |
| 9300 KISV | 2 S/F | 0805.7 | 0806.8 | 6.0 | 9.0 | | | | |
| 9100 GORK | 1 S | 0806.0 | 0806.8 | 3.0 | 11.0 | | | | |
| 5900 KISV | 2 S/F | 0806.0 | 0806.8 | 5.0 | 6.0 | | | | |

60
Jun 89

S O L A R R A D I O E M I S S I O N

Outstanding Occurrences

JUNE 1989

| Day | Freq | Sta | Type | Start (UT) | Time of Maximum (UT) | Duration (Min) | Flux Density | | Int | Remarks |
|-------|-------|------|------|------------|----------------------|----------------|------------------------|---------|-----------------|-----------------|
| | | | | | | | Peak (10 -22 W/m 2 Hz) | Mean | | |
| 03 | 536 | ONDR | 42 | SER | 0856.2 | 0901.1 | 7.0 | 55.0 | | |
| | 200 | HIRA | 42 | SER | 0856.2 | 0901.3 | 9.2 | 105.0 | | 0 |
| | 234 | POTS | 41 | F | 0856.4 | 0904.1 | 9.3 | 100.0 | | |
| | 30 | POTS | 41 | F | 0856.4 | 0858.2U | 8.6 | 4000.0 | | |
| | 1470 | POTS | 4 | S/F | 0856.5 | 0859.8 | 8.0 | 8.0 | | |
| | 950 | GORK | 46 | C | 0856.6 | 0902.0 | | 6.0 | | |
| | 950 | GORK | 46 | C | 0856.6 | 0857.8 | 7.2 | 7.0 | | |
| | 810 | KRAK | 41 | F | 0856.7 | 0901.3 | 5.2 | 22.0 | 2.0 | |
| | 650 | GORK | 46 | C | 0856.7 | 0901.5 | | 34.0 | | |
| | 650 | GORK | 46 | C | 0856.7 | 0859.7 | 5.5 | 27.0 | | |
| | 430 | KRAK | 46 | C | 0856.7 | 0900.8 | 6.3 | 59.0 | 4.0 | |
| | 204 | IZMI | 41 | F | 0856.8 | 0902.0 | 9.0 | 450.0 | | |
| | 600 | HUMN | 2 | S/F | 0858.0 | 0902.0 | 4.5 | 10.0 | 3.0 | |
| | 127 | TORN | 42 | SER | 0858.0 | 0905.8 | 9.0 | 130.0 | 13.0 | |
| | 410 | LEAR | 8 | S | 0900.0E | 0901.0 | 2.00 | 27.0 | | QL=1 ST=2 TYP=3 |
| | 245 | LEAR | 8 | S | 0900.0E | 0901.0 | 2.00 | 66.0 | | QL=1 ST=2 TYP=3 |
| | 245 | SVTO | 8 | S | 0901.0E | 0901.0 | U | 73.0 | | QL=1 ST=2 TYP=3 |
| | 245 | SVTO | 8 | S | 0903.0E | 0904.0 | 1.00 | 120.0 | | QL=1 ST=2 TYP=3 |
| | 245 | LEAR | 8 | S | 0904.0E | 0904.0 | U | 62.0 | | QL=1 ST=2 TYP=3 |
| | 5900 | KISV | 45 | C | 0959.2 | 1005.8 | 14.6 | 21.0 | | |
| | 5900 | KISV | 45 | C | 0959.2 | 1009.9 | | 5.0 | | |
| | 9300 | KISV | 45 | C | 0959.3 | 1010.1 | | 11.0 | | |
| | 9300 | KISV | 45 | C | 0959.3 | 1005.8 | | 13.0 | | |
| | 127 | TORN | 42 | SER | 1002.3 | 1017.3 | 27.0 | 3500.0 | 6.0 | |
| | 3000 | POTS | 4 | S/F | 1004.2 | 1006.0 | 5.8 | 19.0 | | |
| | 3100 | CRIM | 45 | C | 1004.8 | 1006.0 | | 22.0 | | |
| | 1470 | POTS | 4 | S/F | 1004.8 | 1006.0 | 3.7 | 10.0 | | |
| | 3100 | CRIM | 45 | C | 1004.8 | 1005.4 | 2.0 | 20.0 | 7.0 | |
| | 9500 | POTS | 42 | SER | 1005.0 | 1005.9 | 7.0 | 9.0 | | |
| | 3013 | IZMI | 1 | S | 1005.3 | 1005.9 | 1.0 | 7.0 | 3.0 | |
| | 204 | IZMI | 47 | GB | 1005.5 | 1017.5 | 15.0 | 2300.0 | | |
| | 410 | SGMR | 8 | S | 1016.0E | 1017.0 | 2.00 | 440.0 | | QL=1 ST=2 TYP=3 |
| | 245 | SGMR | 49 | GB | 1016.0E | 1017.0 | 2.00 | 2600.0 | | QL=1 ST=2 TYP=6 |
| | 610 | SGMR | 49 | GB | 1016.0E | 1017.0 | 2.00 | 670.0 | | QL=1 ST=2 TYP=6 |
| | 610 | SVTO | 49 | GB | 1016.0E | 1017.0 | 2.00 | 500.0 | | QL=1 ST=2 TYP=6 |
| | 410 | SVTO | 8 | S | 1016.0E | 1017.0 | 1.00 | 280.0 | | QL=1 ST=2 TYP=3 |
| | 245 | SVTO | 49 | GB | 1016.0E | 1017.0 | 2.00 | 1400.0 | | QL=1 ST=2 TYP=6 |
| | 536 | ONDR | 40 | F | 1016.0 | 1017.1 | 4.0 | 87.0 | | |
| | 234 | POTS | 4 | S/F | 1016.1 | 1017.0 | 4.1 | 2500.0 | | |
| | 1470 | POTS | 4 | S/F | 1016.2 | 1017.0 | 3.8 | 257.0 | | |
| | 9500 | POTS | 4 | S/F | 1016.2 | 1017.3 | 5.0 | 226.0 | | |
| | 9300 | KISV | 4 | S/F | 1016.2 | 1017.8 | 9.3 | 132.0 | | |
| | 30 | POTS | 4 | S/F | 1016.2 | 1016.9 | 3.4 | 16000.0 | | |
| | 5900 | KISV | 4 | S/F | 1016.3 | 1017.6 | 4.3 | 138.0 | | |
| | 3200 | BERN | 4 | S/F | 1016.5 | 1017.3 | 1.5 | 71.0 | | |
| | 5200 | BERN | 4 | S/F | 1016.5 | 1017.3 | 1.5 | 129.0 | | |
| | 11800 | BERN | 4 | S/F | 1016.5 | 1017.3 | 1.5 | 383.0 | | |
| | 8400 | BERN | 4 | S/F | 1016.5 | 1017.3 | 1.5 | 241.0 | | |
| | 19600 | BERN | 4 | S/F | 1016.5 | 1017.3 | 1.5 | 389.0 | | |
| | 808 | ONDR | 40 | F | 1016.5 | 1017.4 | 3.0 | 202.0 | | |
| | 430 | KRAK | 47 | GB | 1016.6 | 1017.0 | | 230.00 | | |
| | 810 | KRAK | 47 | GB | 1016.6 | 1017.5 | 2.5 | 250.00 | 140.00 | |
| | 430 | KRAK | 47 | GB | 1016.6 | 1016.6 | 1.5 | 230.00 | 50.0 | |
| 430 | KRAK | 47 | GB | 1016.6 | 1016.8 | | 230.00 | | | |
| 3100 | CRIM | 3 | S | 1016.7 | 1017.5 | 2.0 | 67.0 | 22.0 | | |
| 3000 | POTS | 4 | S/F | 1016.7 | 1017.6 | 3.3 | 63.0 | | | |
| 3013 | IZMI | 5 | S | 1016.8 | 1017.6 | 2.0 | 54.0 | 26.0 | | |
| 15000 | KISV | 4 | S/F | 1016.8 | 1017.6 | 7.7 | 358.0 | | | |
| 1415 | SGMR | 8 | S | 1017.0E | 1017.0 | 1.00 | 270.0 | | QL=1 ST=2 TYP=3 | |
| 2695 | SGMR | 8 | S | 1017.0E | 1017.0 | 1.00 | 67.0 | | QL=1 ST=2 TYP=3 | |
| 8800 | SGMR | 8 | S | 1017.0E | 1017.0 | 1.00 | 160.0 | | QL=1 ST=2 TYP=3 | |
| 4995 | SGMR | 8 | S | 1017.0E | 1017.0 | 1.00 | 100.0 | | QL=1 ST=2 TYP=3 | |
| 15400 | SGMR | 8 | S | 1017.0E | 1017.0 | 1.00 | 300.0 | | QL=1 ST=2 TYP=3 | |
| 1415 | SVTO | 8 | S | 1017.0E | 1017.0 | U | 270.0 | | QL=1 ST=2 TYP=3 | |
| 4995 | SVTO | 8 | S | 1017.0E | 1017.0 | 1.00 | 110.0 | | QL=1 ST=2 TYP=3 | |
| 15400 | SVTO | 8 | S | 1017.0E | 1017.0 | 1.00 | 370.0 | | QL=1 ST=2 TYP=3 | |
| 2695 | SVTO | 8 | S | 1017.0E | 1017.0 | U | 63.0 | | QL=1 ST=2 TYP=3 | |
| 8800 | SVTO | 8 | S | 1017.0E | 1017.0 | 1.00 | 180.0 | | QL=1 ST=2 TYP=3 | |
| 600 | HUMN | 4 | S/F | 1017.0 | 1017.8 | 2.0 | 210.0 | 70.0 | | |

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

61
Jun 89

JUNE 1989

| 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 ⁻²² W/m ² Hz) | | |
| 03 | 410 | SGMR | 8 S | 1022.0E | 1022.0 | 1.00 | 70.0 | | | QL=1 ST=2 TYP=3 |
| | 410 | SVTO | 8 S | 1022.0E | 1022.0 | 1.00 | 210.0 | | | QL=1 ST=2 TYP=3 |
| | 430 | KRAK | 8 S | 1022.5 | 1022.5 | 0.4 | 115.0 | | | |
| | 3100 | CRIM | 1 S | 1022.7 | 1023.0 | 0.7 | 6.0 | 1.0 | | |
| | 3100 | CRIM | 1 S | 1028.0 | 1028.5 | 1.0 | 4.0 | 1.5 | | |
| | 3000 | POTS | 20 GRF | 1110.0 | 1132.5 | 87.0 | 5.0 | | | |
| | 9500 | POTS | 20 GRF | 1115.0 | 1144.5 | 103.0 | 9.0 | | | |
| | 1470 | POTS | 20 GRF | 1125.0 | 1229.0 | 71.0 | 4.0 | | | |
| | 2800 | OTTA | 24 R | 1132.0 | 1200.0 | 95.0 | 7.7 | 3.0 | | |
| | 9300 | KISV | 45 C | 1213.0 | 1216.5 | | 13.0 | | | |
| | 9300 | KISV | 45 C | 1213.0 | 1217.6 | 8.0 | 29.0 | | | |
| | 2800 | OTTA | 3 S | 1216.0 | 1218.0 | 4.5 | 127.1 | 25.0 | | |
| | 410 | SGMR | 49 GB | 1216.0E | 1216.0 | U | 1600.0 | | | QL=1 ST=2 TYP=6 |
| | 245 | SGMR | 49 GB | 1216.0E | 1216.0 | U | 1500.0 | | | QL=1 ST=2 TYP=6 |
| | 245 | SVTO | 49 GB | 1216.0E | 1216.0 | 1.00 | 580.0 | | | QL=1 ST=2 TYP=6 |
| | 410 | SVTO | 49 GB | 1216.0E | 1216.0 | 2.00 | 1000.0 | | | QL=1 ST=2 TYP=6 |
| | 536 | ONDR | 42 SER | 1216.0 | 1216.5 | 7.5 | 271.0 | | | |
| | 234 | POTS | 41 F | 1216.2 | 1216.6 | 3.3 | 275.0 | | | |
| | 430 | KRAK | 42 SER | 1216.3 | 1216.4 | 2.7 | 220.0 | | | |
| | 5900 | KISV | 45 C | 1216.4 | 1216.5 | | 9.0 | | | |
| | 5900 | KISV | 45 C | 1216.4 | 1217.6 | 3.8 | 25.0 | | | |
| | 30 | POTS | 4 S/F | 1216.4 | 1216.6 | 2.5 | 450.0 | | | |
| | 9500 | POTS | 4 S/F | 1216.4 | 1217.7 | 2.1U | 18.0 | | | |
| | 3000 | POTS | 4 S/F | 1216.5 | 1217.6 | 2.5U | 55.0 | | | |
| | 1470 | POTS | 4 S/F | 1216.5 | 1217.6 | 4.8 | 32.0 | | | |
| | 410 | SGMR | 8 S | 1217.0E | 1217.0 | U | 290.0 | | | QL=1 ST=2 TYP=3 |
| | 245 | SGMR | 8 S | 1217.0E | 1217.0 | 1.00 | 60.0 | | | QL=1 ST=2 TYP=3 |
| | 610 | SGMR | 8 S | 1217.0E | 1217.0 | U | 57.0 | | | QL=1 ST=2 TYP=3 |
| | 2695 | SGMR | 8 S | 1217.0E | 1217.0 | 1.00 | 110.0 | | | QL=1 ST=2 TYP=3 |
| | 2695 | SVTO | 8 S | 1217.0E | 1217.0 | U | 96.0 | | | QL=1 ST=2 TYP=3 |
| | 600 | HUMN | 41 F | 1217.0 | 1218.2 | 2.5 | 25.0 | 3.0 | | |
| | 810 | KRAK | 1 S | 1217.5 | 1217.6 | 1.5 | 5.0 | 1.0 | | |
| | 245 | SGMR | 49 GB | 1220.0E | 1220.0 | 1.00 | 1000.0 | | | QL=1 ST=2 TYP=6 |
| | 245 | SVTO | 49 GB | 1220.0E | 1220.0 | 1.00 | 750.0 | | | QL=1 ST=2 TYP=6 |
| | 430 | KRAK | 42 SER | 1253.3 | 1253.4 | 3.5 | 81.0 | | | |
| | 2800 | OTTA | 4 S/F | 1308.0 | 1325.5 | 21.0 | 170.5 | 51.0 | | |
| | 9500 | POTS | 47 GB | 1310.0 | 1322.5 | 35.0 | 251.0 | | | |
| | 536 | ONDR | 49 GB | 1312.4 | 1312.4 | 20.5 | | | | |
| | 3000 | POTS | 47 GB | 1312.9 | 1325.2 | 23.0 | 152.0 | | | |
| | 430 | KRAK | 42 SER | 1313.5 | 1314.5 | | 35.0 | | | |
| | 430 | KRAK | 42 SER | 1313.5 | 1313.5 | 1.7 | 36.0 | | | |
| | 9300 | KISV | 47 GB | 1313.5 | 1322.7 | 24.5 | 368.0 | | | |
| | 5900 | KISV | 29 PBI | 1313.6 | 1331.5 | 27.2 | 41.0 | | | |
| | 5900 | KISV | 47 GB | 1313.6 | 1321.7 | 17.9 | 446.0 | | | |
| | 1470 | POTS | 47 GB | 1315.0 | 1328.6 | 22.0 | 311.1 | | | |
| | 15000 | KISV | 46 C | 1315.7 | 1325.1 | | 110.0 | | | |
| | 15000 | KISV | 46 C | 1315.7 | 1323.8 | | 88.0 | | | |
| | 15000 | KISV | 46 C | 1315.7 | 1322.8 | 21.2 | 128.0 | | | |
| | 3200 | BERN | 46 C | 1317.0 | 1325.0 | 15.0 | 147.0 | | | |
| | 4995 | SGMR | 4 S/F | 1317.0E | 1322.0 | 15.00 | 370.0 | | | QL=1 ST=2 TYP=5 |
| 4995 | SVTO | 4 S/F | 1317.0E | 1322.0 | 14.00 | 310.0 | | | QL=1 ST=2 TYP=5 | |
| 11800 | BERN | 46 C | 1317.0 | 1322.3 | 15.0 | 126.0 | | | | |
| 8400 | BERN | 46 C | 1317.0 | 1322.3 | 15.0 | 290.0 | | | | |
| 5200 | BERN | 46 C | 1317.0 | 1322.3 | 15.0 | 294.0 | | | | |
| 430 | KRAK | 49 GB | 1317.5 | 1326.0U | 16.5 | 220.00 | 100.00 | | | |
| 600 | HUMN | 47 GB | 1318.0 | 1326.0 | 17.0 | 856.0 | 166.0 | | | |
| 8800 | SGMR | 4 S/F | 1318.0E | 1322.0 | 14.00 | 370.0 | | | QL=1 ST=2 TYP=5 | |
| 8800 | SVTO | 4 S/F | 1318.0E | 1322.0 | 12.00 | 260.0 | | | QL=1 ST=2 TYP=5 | |
| 2695 | SVTO | 4 S/F | 1318.0E | 1325.0 | 12.00 | 140.0 | | | QL=1 ST=2 TYP=5 | |
| 808 | ONDR | 49 GB | 1318.6 | | 15.0 | | | | | |
| 1415 | SGMR | 4 S/F | 1319.0E | 1328.0 | 13.00 | 230.0 | | | QL=1 ST=2 TYP=5 | |
| 1415 | SVTO | 4 S/F | 1319.0E | 1328.0 | 12.00 | 240.0 | | | QL=1 ST=2 TYP=5 | |
| 610 | SGMR | 49 GB | 1320.0E | 1325.0 | 12.00 | 13000.0 | | | QL=1 ST=2 TYP=6 | |
| 410 | SGMR | 49 GB | 1321.0E | 1325.0 | 11.00 | 780.0 | | | QL=1 ST=2 TYP=6 | |
| 15400 | SVTO | 4 S/F | 1322.0E | 1325.0 | 7.00 | 95.0 | | | QL=1 ST=2 TYP=5 | |
| 610 | SVTO | 49 GB | 1322.0E | 1325.0 | 5.00 | 15000.0 | | | QL=1 ST=2 TYP=6 | |
| 410 | SVTO | 4 S/F | 1322.0E | 1325.0 | 10.00 | 410.0 | | | QL=1 ST=2 TYP=3 | |
| 127 | TORN | 27 RF | 1322.5 | | 60.0 | | 13.0 | | | |
| 15400 | SGMR | 4 S/F | 1323.0E | 1325.0 | 6.00 | 130.0 | | | QL=1 ST=2 TYP=3 | |

62
Jun 89

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

JUNE 1989

| Day | Freq | Sta | Type | Start (UT) | Time of Maximum (UT) | Duration (Min) | Flux Density | | Int | Remarks |
|-------|-------|--------|---------|------------|----------------------|----------------|------------------------|-------|-----------------|-----------------|
| | | | | | | | Peak (10 -22 W/m 2 Hz) | Mean | | |
| 03 | 2695 | SGMR | 20 GRF | 1323.0E | 1325.0 | 9.00 | 150.0 | | | QL=1 ST=2 TYP=2 |
| | 245 | SGMR | 4 S/F | 1324.0E | 1329.0 | 8.00 | 130.0 | | | QL=1 ST=2 TYP=3 |
| | 245 | SVTO | 4 S/F | 1324.0E | 1329.0 | 6.00 | 84.0 | | | QL=1 ST=2 TYP=5 |
| | 127 | TORN | 47 GB | 1328.3 | 1328.9 | 3.0 | 1050.0 | 550.0 | | |
| | 2800 | OTTA | 29 PBI | 1334.0 | 1334.0 | 107.0 | 13.4 | 6.0 | | |
| | 2800 | OTTA | 23 GRF | 1347.0 | 1353.0 | 80.0 | 6.9 | 3.0 | | |
| | 245 | SGMR | 8 S | 1406.0E | 1406.0 | 1.00 | 140.0 | | | QL=1 ST=2 TYP=3 |
| | 245 | SVTO | 8 S | 1406.0E | 1406.0 | 1.00 | 98.0 | | | QL=1 ST=2 TYP=3 |
| | 245 | SVTO | 8 S | 1414.0E | 1414.0 | U | 55.0 | | | QL=1 ST=2 TYP=3 |
| | 536 | ONDR | 42 SER | 1440.0 | 1441.0 | 3.5 | 34.0 | | | |
| | 600 | HUMN | 3 S | 1442.0 | 1442.5 | 3.0 | 10.0 | 2.0 | | |
| | 4995 | SGMR | 8 S | 1544.0E | 1544.0 | 1.00 | 50.0 | | | QL=1 ST=2 TYP=3 |
| | 2800 | OTTA | 22 GRF | 1617.0 | 1625.0 | 90.0 | 4.1 | 2.0 | | |
| | 2800 | OTTA | 4 S/F | 1654.0 | 1658.5 | 21.0 | 23.1 | 6.0 | | |
| | 245 | PALE | 8 S | 1654.0E | 1654.0 | 1.00 | 130.0 | | | QL=1 ST=2 TYP=3 |
| | 245 | SGMR | 8 S | 1654.0E | 1655.0 | 1.00 | 110.0 | | | QL=1 ST=2 TYP=3 |
| | 245 | SVTO | 8 S | 1654.0E | 1654.0 | U | 89.0 | | | QL=1 ST=2 TYP=3 |
| | 2800 | OTTA | 3 S | 1828.0 | 1830.5 | 10.0 | 138.9 | 42.0 | | |
| | 5200 | BERN | 3 S | 1828.0 | 1830.0 | 7.0 | 432.0 | | | |
| | 3200 | BERN | 3 S | 1828.0 | 1830.4 | 7.0 | 136.0 | | | |
| 1415 | SGMR | 8 S | 1829.0E | 1830.0 | 1.00 | 92.0 | | | QL=1 ST=2 TYP=3 | |
| 2800 | OTTA | 29 PBI | 1838.0 | 1838.0 | 103.0 | 22.3 | 11.0 | | | |
| 100 | HIRA | 46 C | 2304.6 | 2308.6 | 7.9 | 885.0 | 140.0 | | | |
| 04 | 204 | I2MI | 43 NS | 0600.0 | | 360.0 | 10.0 | | | |
| | 100 | GORK | 43 NS | 0754.0 | | 150.0 | | | | |
| | 500 | HIRA | 46 C | 0210.8 | 0215.0 | 10.5 | 148.0 | 45.0 | | ML |
| | 500 | HIRA | 46 C | 0210.8 | 0218.7 | | 87.0 | | | ML |
| | 200 | HIRA | 46 C | 0210.9 | 0213.7 | 22.4 | 195.0 | 23.0 | | WL |
| | 1415 | LEAR | 49 GB | 0211.0E | 0215.0 | 1309.00 | 4000.0 | | | QL=1 ST=1 TYP=6 |
| | 245 | LEAR | 4 S/F | 0212.0E | 0214.0 | 1308.00 | 120.0 | | | QL=1 ST=1 TYP=3 |
| | 2695 | LEAR | 4 S/F | 0212.0E | 0216.0 | 1308.00 | 160.0 | | | QL=1 ST=1 TYP=3 |
| | 4995 | LEAR | 4 S/F | 0212.0E | 0216.0 | 1308.00 | 130.0 | | | QL=1 ST=1 TYP=3 |
| | 100 | HIRA | 46 C | 0212.3 | 0214.5 | 9.2 | 1000.00 | | | |
| | 245 | PALE | 8 S | 0213.0E | 0214.0 | 1.00 | 160.0 | | | QL=1 ST=2 TYP=3 |
| | 610 | PALE | 49 GB | 0213.0E | 0215.0 | 3.00 | 740.0 | | | QL=1 ST=2 TYP=6 |
| | 1415 | PALE | 49 GB | 0213.0E | 0215.0 | 4.00 | 5100.0 | | | QL=1 ST=2 TYP=6 |
| | 8800 | LEAR | 4 S/F | 0213.0E | 0216.0 | 1307.00 | 66.0 | | | QL=1 ST=1 TYP=3 |
| | 610 | LEAR | 49 GB | 0213.0E | 0215.0 | 1307.00 | 750.0 | | | QL=1 ST=1 TYP=6 |
| | 410 | LEAR | 4 S/F | 0213.0E | 0215.0 | 1307.00 | 67.0 | | | QL=1 ST=1 TYP=3 |
| | 2695 | PALE | 4 S/F | 0214.0E | 0216.0 | 3.00 | 190.0 | | | QL=1 ST=2 TYP=3 |
| | 410 | PALE | 8 S | 0215.0E | 0215.0 | U | 54.0 | | | QL=1 ST=2 TYP=3 |
| | 8800 | PALE | 8 S | 0215.0E | 0216.0 | 2.00 | 73.0 | | | QL=1 ST=2 TYP=3 |
| | 15400 | LEAR | 4 S/F | 0215.0E | 0216.0 | 1305.00 | 38.0 | | | QL=1 ST=1 TYP=3 |
| | 245 | PALE | 8 S | 0219.0E | 0220.0 | 1.00 | 340.0 | | | QL=1 ST=2 TYP=3 |
| | 245 | PALE | 4 S/F | 0222.0E | 0224.0 | 3.00 | 130.0 | | | QL=1 ST=2 TYP=3 |
| | 2950 | GORK | 21 GRF | 0239.0E | 0240.0 | 84.00 | 30.0 | | | |
| | 9100 | GORK | 21 GRF | 0247.0E | 0255.7 | 67.00 | 42.0 | | | |
| | 9100 | GORK | 4 S/F | 0247.7 | 0250.6 | 5.3 | 322.0 | | | |
| | 4995 | LEAR | 4 S/F | 0248.0E | 0250.0 | 9.00 | 280.0 | | | QL=1 ST=2 TYP=3 |
| | 2950 | GORK | 45 C | 0248.9 | 0250.2 | 8.1 | 173.0 | | | |
| | 2950 | GORK | 45 C | 0248.9 | 0250.8 | | 141.0 | | | |
| | 8800 | LEAR | 4 S/F | 0249.0E | 0250.0 | 8.00 | 280.0 | | | QL=1 ST=2 TYP=3 |
| | 15400 | LEAR | 4 S/F | 0249.0E | 0250.0 | 8.00 | 230.0 | | | QL=1 ST=2 TYP=3 |
| | 2695 | LEAR | 4 S/F | 0249.0E | 0250.0 | 6.00 | 170.0 | | | QL=1 ST=2 TYP=3 |
| | 8800 | PALE | 4 S/F | 0249.0E | 0250.0 | 3.00 | 290.0 | | | QL=1 ST=2 TYP=3 |
| | 1415 | LEAR | 4 S/F | 0250.0E | 0250.0 | 3.00 | 17.0 | | | QL=1 ST=2 TYP=3 |
| | 15400 | PALE | 8 S | 0250.0E | 0250.0 | 2.00 | 250.0 | | | QL=1 ST=2 TYP=3 |
| 2695 | PALE | 8 S | 0250.0E | 0250.0 | 2.00 | 170.0 | | | QL=1 ST=2 TYP=3 | |
| 9100 | GORK | 1 S | 0435.5 | 0436.1 | 2.0 | 29.0 | | | | |
| 9300 | KISV | 2 S/F | 0435.5 | 0436.2 | 5.2 | 34.0 | | | | |
| 15000 | KISV | 2 S/F | 0435.5 | 0436.3 | 3.9 | 11.0 | | | | |
| 3100 | CRIM | 1 S | 0435.6 | 0436.0 | 1.5 | 15.6 | 3.0 | | | |
| 2950 | GORK | 3 S | 0435.6 | 0436.2 | 1.4 | 16.0 | | | | |
| 5900 | KISV | 2 S/F | 0435.6 | 0436.2 | 3.5 | 29.0 | | | | |
| 2950 | GORK | 21 GRF | 0452.5 | 0850.0 | 277.5 | 12.0 | | | | |
| 260 | ONDR | 41 F | 0600.0E | 0749.4 | 590.00 | 290.0 | | | | |
| 610 | LEAR | 8 S | 0707.0E | 0708.0 | 1.00 | 60.0 | | | QL=1 ST=2 TYP=3 | |
| 5900 | KISV | 2 S/F | 0718.5 | 0719.4 | 1.9 | 4.0 | | | | |

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

63
Jun 89

JUNE 1989

| Day | Freq | Sta | Type | Start (UT) | Time of Maximum (UT) | Duration (Min) | Flux Density | | Int | Remarks |
|-------|-------|--------|---------|------------|----------------------|----------------|------------------------|------|-----------------|-----------------|
| | | | | | | | Peak (10 -22 W/m 2 Hz) | Mean | | |
| 04 | 9500 | POTS | 1 S | 0718.6 | 0719.3 | 1.4 | 6.0 | | | |
| | 9100 | GORK | 1 S | 0718.7 | 0719.1 | 1.4 | 8.0 | | | |
| | 9300 | KISV | 2 S/F | 0718.8 | 0719.7 | 1.3 | 9.0 | | | |
| | 9500 | POTS | 21 GRF | 0740.5 | 0755.1 | 35.0 | 13.0 | | | |
| | 500 | HIRA | 46 C | 0741.5 | 0749.0 | | 12.0 | | | O |
| | 500 | HIRA | 46 C | 0741.5 | 0745.1 | 9.0 | 100.0 | 8.0 | | WR |
| | 950 | GORK | 46 C | 0742.0 | 0748.1 | | 27.0 | | | |
| | 650 | GORK | 46 C | 0742.0 | 0746.1 | 11.0 | 21.0 | | | |
| | 650 | GORK | 46 C | 0742.0 | 0749.3 | | 18.0 | | | |
| | 950 | GORK | 46 C | 0742.0 | 0745.3 | 10.3 | 473.0 | | | |
| | 536 | ONDR | 7 C | 0742.0 | 0745.3 | 10.0 | 73.0 | | | |
| | 950 | GORK | 46 C | 0742.0 | 0748.7 | | 69.0 | | | |
| | 1470 | POTS | 4 S/F | 0742.5 | 0749.3 | 9.0 | 20.0 | | | |
| | 9300 | KISV | 45 C | 0742.8 | 0746.1 | 8.0 | 83.0 | | | |
| | 9300 | KISV | 45 C | 0742.8 | 0749.2 | | 36.0 | | | |
| | 3013 | I2HI | 7 C | 0742.8 | 0746.3 | 7.5 | 26.0 | 15.0 | | |
| | 810 | KRAK | 41 F | 0742.8 | 0745.7 | 9.5 | 18.0 | 9.0 | | |
| | 9300 | KISV | 29 PBI | 0742.8 | 0750.8 | 27.2 | 13.0 | | | |
| | 810 | KRAK | 41 F | 0742.8 | 0748.9 | | 48.0 | | | |
| | 11800 | BERN | 46 C | 0743.0 | 0746.0 | 8.0 | 40.0 | | | |
| | 8400 | BERN | 46 C | 0743.0 | 0746.0 | 8.0 | 72.0 | | | |
| | 3200 | BERN | 46 C | 0743.0 | 0746.0 | 8.0 | 36.0 | | | |
| | 5200 | BERN | 46 C | 0743.0 | 0746.0 | 8.0 | 84.0 | | | |
| | 3100 | CRIM | 3 S | 0743.0 | 0746.0 | 7.0 | 34.0 | 11.0 | | |
| | 2950 | GORK | 46 C | 0743.0 | 0746.0 | | 30.0 | | | |
| | 5900 | KISV | 45 C | 0743.0 | 0746.0 | 7.7 | 105.0 | | | |
| | 2695 | LEAR | 4 S/F | 0743.0E | 0745.0 | 6.00 | 34.0 | | | QL=1 ST=2 TYP=3 |
| | 3000 | POTS | 4 S/F | 0743.0 | 0746.0 | 8.2 | 42.0 | | | |
| | 9100 | GORK | 21 GRF | 0743.0 | 0856.0 | 119.0 | 57.0 | | | |
| | 2950 | GORK | 46 C | 0743.0 | 0749.2 | | 16.0 | | | |
| | 5900 | KISV | 45 C | 0743.0 | 0749.2 | | 46.0 | | | |
| | 2950 | GORK | 46 C | 0743.0 | 0743.6 | 7.6 | 16.0 | | | |
| | 5900 | KISV | 29 PBI | 0743.0 | 0750.7 | 28.8 | 6.0 | | | |
| | 2950 | GORK | 46 C | 0743.0 | 0744.8 | | 21.0 | | | |
| | 2950 | GORK | 46 C | 0743.0 | 0746.9 | | 30.0 | | | |
| | 9500 | POTS | 4 S/F | 0743.0 | 0745.9 | 8.0 | 62.0 | | | |
| | 430 | KRAK | 8 S | 0743.3 | 0743.6 | 1.2 | 120.0 | | | |
| | 808 | ONDR | 40 F | 0743.3 | 0748.8 | 9.0 | 44.0 | | | |
| | 200 | HIRA | 46 C | 0743.6 | 0748.6 | 11.9 | 540.0 | | | O |
| | 4995 | LEAR | 4 S/F | 0744.0E | 0746.0 | 5.00 | 88.0 | | | QL=1 ST=2 TYP=3 |
| | 4995 | SVTO | 4 S/F | 0744.0E | 0746.0 | 5.00 | 94.0 | | | QL=1 ST=2 TYP=3 |
| | 15000 | KISV | 29 PBI | 0744.0 | 0750.0 | 28.0 | 9.0 | | | |
| | 15000 | KISV | 45 C | 0744.0 | 0746.1 | 6.0 | 39.0 | | | |
| | 15000 | KISV | 45 C | 0744.0 | 0749.2 | | 17.0 | | | |
| | 204 | I2HI | 42 SER | 0744.0 | 0749.5 | 7.0 | 550.0 | | | |
| | 9100 | GORK | 4 S/F | 0744.2 | 0746.0 | 5.7 | 77.0 | | | |
| | 430 | KRAK | 4 S/F | 0744.5 | 0745.2 | 4.0 | 180.0 | 40.0 | | |
| | 100 | GORK | 4 S/F | 0745.0 | 0748.0 | 7.6 | 35.0 | | | |
| | 410 | LEAR | 8 S | 0745.0E | 0745.0 | 1.00 | 160.0 | | | QL=1 ST=2 TYP=3 |
| | 245 | LEAR | 8 S | 0745.0E | 0746.0 | 2.00 | 180.0 | | | QL=1 ST=3 TYP=3 |
| 610 | LEAR | 8 S | 0745.0E | 0745.0 | 1.00 | 20.0 | | | QL=1 ST=2 TYP=3 | |
| 1415 | LEAR | 4 S/F | 0745.0E | 0749.0 | 4.00 | 20.0 | | | QL=1 ST=2 TYP=3 | |
| 15400 | LEAR | 4 S/F | 0745.0E | 0746.0 | 4.00 | 38.0 | | | QL=1 ST=2 TYP=3 | |
| 8800 | LEAR | 4 S/F | 0745.0E | 0746.0 | 4.00 | 71.0 | | | QL=1 ST=2 TYP=3 | |
| 15400 | SVTO | 4 S/F | 0745.0E | 0746.0 | 3.00 | 54.0 | | | QL=1 ST=2 TYP=3 | |
| 410 | SVTO | 8 S | 0745.0E | 0745.0 | 1.00 | 170.0 | | | QL=1 ST=2 TYP=3 | |
| 234 | POTS | 41 F | 0745.0 | 0749.4 | 6.0 | 150.0 | | | | |
| 600 | HJMM | 2 S/F | 0745.0 | 0746.5 | 4.0 | 10.0 | 5.0 | | | |
| 30 | POTS | 4 S/F | 0745.2 | 0749.5 | 5.4 | 190.0 | | | | |
| 245 | SVTO | 8 S | 0749.0E | 0749.0 | U | 200.0 | | | QL=1 ST=2 TYP=3 | |
| 430 | KRAK | 2 S/F | 0749.0 | 0749.2 | 1.8 | 23.0 | 10.0 | | | |
| 600 | HJMM | 2 S/F | 0749.5 | 0750.0 | 2.5 | 6.0 | 3.0 | | | |
| 950 | GORK | 20 GRF | 0821.0 | 0921.0 | 69.0 | 11.0 | | | | |
| 9300 | KISV | 22 GRF | 0828.0 | 0856.0 | 103.6 | 50.0 | | | | |
| 15000 | KISV | 22 GRF | 0828.0 | 0858.2 | 103.4 | 50.0 | | | | |
| 9100 | GORK | 2 S/F | 0828.0 | 0828.7 | 5.3 | 17.0 | | | | |
| 5900 | KISV | 22 GRF | 0828.0 | 0856.7 | 111.0 | 36.0 | | | | |
| 3100 | CRIM | 21 GRF | 0835.3 | 0849.9 | 145.0 | 7.0 | 2.0 | | | |
| 9500 | POTS | 20 GRF | 0845.9 | 0855.8 | 30.0 | 53.0 | | | | |

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

JUNE 1989

| Day | Freq | Sta | Type | Start (UT) | Time of Maximum (UT) | Duration (Min) | Flux Density | | Int | Remarks |
|-------|-------|--------|---------|------------|----------------------|----------------|------------------------|------|-----------------|-----------------|
| | | | | | | | Peak (10 -22 M/m 2 Hz) | Mean | | |
| 04 | 3100 | CRIM | 1 S | 0849.9 | 0851.5 | 4.0 | 9.7 | 3.0 | | |
| | 2950 | GORK | 4 S/F | 0850.0 | 0850.5 | 3.3 | 12.0 | | | |
| | 1470 | POTS | 1 S | 0851.0 | 0851.4 | 0.8 | 4.0 | | | |
| | 15400 | SVTO | 20 GRF | 0852.0E | 0903.0 | 24.00 | 58.0 | | | QL=1 ST=2 TYP=2 |
| | 9300 | KISV | 2 S/F | 1141.8 | 1143.1 | 5.0 | 7.0 | | | |
| | 5900 | KISV | 2 S/F | 1142.3 | 1142.9 | 2.4 | 4.0 | | | |
| | 9500 | POTS | 21 GRF | 1159.5 | 1227.5 | 52.0 | 12.0 | | | |
| | 5900 | KISV | 2 S/F | 1219.9 | 1220.7 | 5.0 | 24.0 | | | |
| | 9500 | POTS | 4 S/F | 1220.0 | 1220.9 | 4.8 | 13.0 | | | |
| | 9300 | KISV | 2 S/F | 1220.1 | 1220.9 | 6.0 | 19.0 | | | |
| | 9500 | POTS | 4 S/F | 1317.6 | 1319.7 | 6.4 | 27.0 | | | |
| | 9300 | KISV | 2 S/F | 1318.5 | 1319.7 | 5.2 | 36.0 | | | |
| | 5900 | KISV | 2 S/F | 1318.5 | 1319.8 | 6.2 | 11.0 | | | |
| | 2800 | OTTA | 22 GRF | 1320.0 | 1600.0 | 280.0 | 11.0 | 5.0 | | |
| | 9500 | POTS | 20 GRF | 1332.5 | 1353.8 | 25.0 | 14.0 | | | |
| | 9300 | KISV | 23 GRF | 1333.2 | 1346.5 | 24.2 | 16.0 | | | |
| | 5900 | KISV | 23 GRF | 1334.1 | 1339.5 | 15.5 | 11.0 | | | |
| | 5900 | KISV | 2 S/F | 1345.6 | 1346.5 | 2.6 | 6.0 | | | |
| | 1470 | POTS | 21 GRF | 1401.5 | 1418.9 | 29.00 | 7.0 | | | |
| | 2800 | OTTA | 4 S/F | 1404.0 | 1414.0 | 20.0 | 36.2 | 10.0 | | |
| | 9500 | POTS | 21 GRF | 1404.5 | 1417.0U | 26.00 | 15.0 | | | |
| | 3000 | POTS | 21 GRF | 1405.0 | 1419.0 | 25.00 | 14.0 | | | |
| | 9500 | POTS | 4 S/F | 1406.2 | 1408.2 | 10.0U | 38.0 | | | |
| | 3200 | BERN | 4 S/F | 1407.0 | 1412.5 | 8.0 | 32.0 | | | |
| | 5200 | BERN | 4 S/F | 1407.0 | 1412.5 | 8.0 | 43.0 | | | |
| | 1470 | POTS | 4 S/F | 1410.5 | 1412.7 | 5.5 | 15.0 | | | |
| | 3000 | POTS | 4 S/F | 1411.0 | 1413.4 | 3.9 | 37.0 | | | |
| | 536 | ONDR | 41 F | 1411.1 | 1411.5 | 25.0 | 34.0 | | | |
| | 4995 | SGMR | 8 S | 1412.0E | 1412.0 | 2.00 | 77.0 | | | QL=1 ST=2 TYP=3 |
| | 600 | HUNN | 4 S/F | 1412.0 | 1422.0 | 23.0 | 20.0 | 8.0 | | |
| | 610 | SGMR | 8 S | 1421.0E | 1421.0 | 1.00 | 90.0 | | | QL=1 ST=2 TYP=3 |
| | 2800 | OTTA | 3 S | 1518.5 | 1520.0 | 5.0 | 27.4 | 8.0 | | |
| | 245 | SGMR | 8 S | 1622.0E | 1622.0 | U | 52.0 | | | QL=1 ST=2 TYP=3 |
| | 2800 | OTTA | 23 GRF | 1632.0 | 1638.0 | 55.0 | 16.4 | 6.0 | | |
| 8800 | SVTO | 4 S/F | 1636.0E | 1638.0 | 3.00 | 55.0 | | | QL=1 ST=2 TYP=3 | |
| 4995 | SVTO | 8 S | 1637.0E | 1638.0 | 1.00 | 55.0 | | | QL=1 ST=2 TYP=3 | |
| 15400 | SVTO | 8 S | 1643.0E | 1643.0 | U | 64.0 | | | QL=1 ST=2 TYP=3 | |
| 8800 | PALE | 4 S/F | 2115.0E | 2117.0 | 7.00 | 410.0 | | | QL=1 ST=2 TYP=3 | |
| 15400 | PALE | 49 GB | 2115.0E | 2117.0 | 17.00 | 680.0 | | | QL=1 ST=2 TYP=6 | |
| 8800 | SGMR | 49 GB | 2115.0E | 2117.0 | 20.00 | 590.0 | | | QL=1 ST=2 TYP=6 | |
| 15400 | SGMR | 49 GB | 2115.0E | 2117.0 | 20.00 | 610.0 | | | QL=1 ST=2 TYP=6 | |
| 2800 | OTTA | 22 GRF | 2116.0 | 2131.0 | 165.0 | 28.6 | 14.0 | | | |
| 4995 | SGMR | 4 S/F | 2116.0E | 2117.0 | 18.00 | 220.0 | | | QL=1 ST=2 TYP=3 | |
| 05 | 2695 | PENT | 22 GRF | 0104.0 | 0115.5 | 40.00 | 35.7 | 10.0 | | |
| | 15400 | LEAR | 4 S/F | 0130.0E | 0131.0 | 5.00 | 490.0 | | | QL=1 ST=2 TYP=3 |
| | 8800 | LEAR | 4 S/F | 0130.0E | 0131.0 | 3.00 | 280.0 | | | QL=1 ST=2 TYP=3 |
| | 4995 | LEAR | 8 S | 0130.0E | 0131.0 | 2.00 | 89.0 | | | QL=1 ST=2 TYP=3 |
| | 15400 | PALE | 49 GB | 0130.0E | 0131.0 | 2.00 | 570.0 | | | QL=1 ST=2 TYP=6 |
| | 8800 | PALE | 8 S | 0130.0E | 0131.0 | 2.00 | 290.0 | | | QL=1 ST=2 TYP=3 |
| | 2695 | LEAR | 8 S | 0131.0E | 0131.0 | U | 19.0 | | | QL=1 ST=2 TYP=3 |
| | 245 | PALE | 8 S | 0157.0E | 0157.0 | U | 410.0 | | | QL=1 ST=2 TYP=3 |
| | 9100 | GORK | 21 GRF | 0300.0E | 0918.0 | 455.20 | 31.0 | | | |
| | 245 | LEAR | 8 S | 0302.0E | 0302.0 | U | 140.0 | | | QL=1 ST=2 TYP=3 |
| | 245 | PALE | 8 S | 0302.0E | 0302.0 | U | 180.0 | | | QL=1 ST=2 TYP=3 |
| | 4995 | LEAR | 4 S/F | 0306.0E | 0308.0 | 3.00 | 60.0 | | | QL=1 ST=2 TYP=3 |
| | 9100 | GORK | 1 S | 0307.7 | 0308.3 | 3.7 | 33.0 | | | |
| | 8800 | LEAR | 8 S | 0308.0E | 0308.0 | U | 26.0 | | | QL=1 ST=2 TYP=3 |
| | 950 | GORK | 20 GRF | 0319.6 | 0341.4 | 37.9 | 2.0 | | | |
| | 2950 | GORK | 3 S | 0333.7 | 0338.4 | 6.3 | 6.0 | | | |
| | 5900 | KISV | 2 S/F | 0629.8 | 0630.4 | 2.5 | 6.0 | | | |
| | 260 | ONDR | 42 SER | 0650.5 | 0651.6 | 2.0 | 72.0 | | | |
| | 2950 | GORK | 45 C | 0718.9 | 0720.4 | 3.9 | 48.0 | | | |
| | 2950 | GORK | 45 C | 0718.9 | 0720.7 | | 48.0 | | | |
| | 4995 | LEAR | 4 S/F | 0719.0E | 0720.0 | 4.00 | 180.0 | | | QL=1 ST=2 TYP=3 |
| | 8800 | SVTO | 4 S/F | 0719.0E | 0720.0 | 4.00 | 280.0 | | | QL=1 ST=2 TYP=3 |
| | 4995 | SVTO | 4 S/F | 0719.0E | 0720.0 | 3.00 | 170.0 | | | QL=1 ST=2 TYP=3 |
| 3200 | BERN | 3 S | 0719.2 | 0720.3 | 2.5 | 53.0 | | | | |
| 8400 | BERN | 3 S | 0719.2 | 0720.3 | 2.5 | 279.0 | | | | |

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

65
Jun 89

JUNE 1989

| Day | Freq | Sta | Type | Start (UT) | Time of Maximum (UT) | Duration (Min) | Flux Density | | Int | Remarks |
|-------|-------|--------|---------|------------|----------------------|----------------|------------------------|------|-----------------|-----------------|
| | | | | | | | Peak (10 -22 W/m 2 Hz) | Mean | | |
| 05 | 11800 | BERN | 3 S | 0719.2 | 0720.3 | 2.5 | 237.0 | | | |
| | 5200 | BERN | 3 S | 0719.2 | 0720.3 | 2.5 | 164.0 | | | |
| | 19600 | BERN | 3 S | 0719.2 | 0720.3 | 2.5 | 114.0 | | | |
| | 3100 | CRIM | 3 S | 0719.2 | 0720.5 | 5.0 | 51.0 | 17.0 | | |
| | 3013 | IZMI | 5 S | 0719.2 | 0720.5 | 4.5 | 53.0 | 25.0 | | |
| | 5900 | KISV | 47 GB | 0719.2 | 0720.5 | 4.8 | 241.0 | | | |
| | 1470 | POTS | 4 S/F | 0719.3 | 0720.1 | 5.7 | 22.0 | | | |
| | 9100 | GORK | 4 S/F | 0719.3 | 0720.4 | 5.2 | 254.0 | | | |
| | 9300 | KISV | 4 S/F | 0719.3 | 0720.4 | 4.7 | 247.0 | | | |
| | 15000 | KISV | 4 S/F | 0719.4 | 0720.6 | 4.6 | 51.0 | | | |
| | 9500 | POTS | 4 S/F | 0719.5 | 0720.0 | 31.0 | 200.0 | | | |
| | 3000 | POTS | 4 S/F | 0719.5 | 0720.6 | 4.5 | 69.0 | | | |
| | 15400 | LEAR | 8 S | 0720.0E | 0720.0 | 1.0D | 110.0 | | | QL=1 ST=2 TYP=3 |
| | 2695 | SVTO | 8 S | 0720.0E | 0720.0 | 1.0D | 51.0 | | | QL=1 ST=2 TYP=3 |
| | 15400 | SVTO | 8 S | 0720.0E | 0720.0 | 1.0D | 120.0 | | | QL=1 ST=2 TYP=3 |
| | 260 | ONDR | 42 SER | 0740.0 | 0744.2 | 7.0 | 201.0 | | | |
| | 204 | IZMI | 5 S | 0740.1 | 0744.6 | 5.0 | 100.0 | 70.0 | | |
| | 430 | KRAK | 42 SER | 0740.5 | 0744.0 | 6.0 | 120.0 | | | |
| | 200 | HIRA | 46 C | 0742.9 | 0743.6 | 1.1 | 290.0 | | | 0 |
| | 536 | ONDR | 40 F | 0743.4 | 0744.3 | 3.0 | 145.0 | | | |
| | 100 | HIRA | 46 C | 0743.6 | 0744.0 | 1.3 | 740.0 | | | |
| | 610 | LEAR | 8 S | 0744.0E | 0744.0 | U | 79.0 | | | |
| | 410 | LEAR | 8 S | 0744.0E | 0744.0 | 1.0D | 46.0 | | | QL=1 ST=2 TYP=3 |
| | 245 | LEAR | 8 S | 0744.0E | 0744.0 | 1.0D | 63.0 | | | QL=1 ST=2 TYP=3 |
| | 245 | SVTO | 8 S | 0744.0E | 0744.0 | 1.0D | 72.0 | | | QL=1 ST=2 TYP=3 |
| | 410 | SVTO | 8 S | 0744.0E | 0744.0 | 1.0D | 50.0 | | | QL=1 ST=2 TYP=3 |
| | 610 | SVTO | 8 S | 0744.0E | 0744.0 | 1.0D | 50.0 | | | QL=1 ST=2 TYP=3 |
| | 500 | HIRA | 46 C | 0744.0 | 0744.1 | 1.2 | 158.0 | | | WL |
| | 600 | HUMN | 3 S | 0744.5 | 0745.0 | 1.0 | 50.0 | 20.0 | | |
| | 9500 | POTS | 21 GRF | 0805.0 | 0847.7 | 130.0 | 30.0 | | | |
| | 9300 | KISV | 2 S/F | 0815.4 | 0815.4 | 1.4 | 9.0 | | | |
| | 15000 | KISV | 2 S/F | 0815.4 | 0815.7 | 0.8 | 9.0 | | | |
| | 5900 | KISV | 2 S/F | 0815.4 | 0815.7 | 0.8 | 6.0 | | | |
| | 260 | ONDR | 40 F | 0844.0 | 0845.4 | 2.0 | 80.0 | | | |
| | 9100 | GORK | 1 S | 0847.4 | 0847.9 | 2.3 | 13.0 | | | |
| | 5900 | KISV | 2 S/F | 0847.6 | 0848.0 | 1.6 | 8.0 | | | |
| | 9300 | KISV | 2 S/F | 0847.6 | 0848.0 | 3.4 | 14.0 | | | |
| | 260 | ONDR | 41 F | 0949.0 | 1120.0 | 111.0 | 67.0 | | | |
| | 9300 | KISV | 4 S/F | 1108.6 | 1114.0U | 8.2 | 98.0D | | | |
| | 9300 | KISV | 29 PBI | 1108.6 | 1116.7 | 70.5 | 48.0 | | | |
| | 9100 | GORK | 21 GRF | 1109.4 | 1119.2 | 68.6 | 33.0 | | | |
| | 5900 | KISV | 4 S/F | 1111.9 | 1114.0 | 5.3 | 117.0 | | | |
| | 5900 | KISV | 29 PBI | 1111.9 | 1117.2 | 84.6 | 27.0 | | | |
| | 15400 | SVTO | 4 S/F | 1112.0E | 1113.0 | 8.0D | 170.0 | | | QL=1 ST=2 TYP=3 |
| | 8800 | SVTO | 4 S/F | 1112.0E | 1113.0 | 8.0D | 200.0 | | | QL=1 ST=2 TYP=3 |
| | 9500 | POTS | 45 C | 1112.0 | 1113.5 | 58.0 | 175.0 | | | |
| | 15000 | KISV | 4 S/F | 1112.2 | 1113.9 | 3.7 | 166.0 | | | |
| | 15000 | KISV | 29 PBI | 1112.2 | 1115.9 | 63.3 | 46.0 | | | |
| | 950 | GORK | 1 S | 1112.4 | 1113.8 | 2.2 | 2.0 | | | |
| | 3000 | POTS | 4 S/F | 1112.5 | 1115.0 | 4.5U | 65.0 | | | |
| 9100 | GORK | 4 S/F | 1112.5 | 1116.8 | 6.5 | 191.0 | | | | |
| 3013 | IZMI | 5 S | 1113.0 | 1114.0 | 6.5 | 47.0 | 23.0 | | | |
| 8800 | SGMR | 4 S/F | 1113.0E | 1113.0 | 3.0D | 220.0 | | | QL=1 ST=2 TYP=3 | |
| 4995 | SGMR | 4 S/F | 1113.0E | 1113.0 | 3.0D | 110.0 | | | QL=1 ST=2 TYP=3 | |
| 15400 | SGMR | 8 S | 1113.0E | 1113.0 | 2.0D | 160.0 | | | QL=1 ST=2 TYP=3 | |
| 4995 | SVTO | 4 S/F | 1113.0E | 1113.0 | 5.0D | 100.0 | | | QL=1 ST=2 TYP=3 | |
| 3100 | CRIM | 29 PBI | 1113.0 | 1117.0 | 40.0 | 12.0 | 3.0 | | | |
| 19600 | BERN | 4 S/F | 1113.0 | 1113.5 | 4.0 | 148.0 | | | | |
| 11800 | BERN | 4 S/F | 1113.0 | 1113.5 | 4.0 | 172.0 | | | | |
| 8400 | BERN | 4 S/F | 1113.0 | 1113.5 | 4.0 | 170.0 | | | | |
| 5200 | BERN | 4 S/F | 1113.0 | 1113.5 | 4.0 | 102.0 | | | | |
| 3200 | BERN | 4 S/F | 1113.0 | 1114.5 | 4.0 | 40.0 | | | | |
| 1470 | POTS | 4 S/F | 1113.0 | 1113.5 | 4.0 | 27.0 | | | | |
| 3100 | CRIM | 3 S | 1113.0 | 1114.8 | 4.0 | 40.0 | 13.0 | | | |
| 2950 | GORK | 3 S | 1113.2 | 1114.9 | 3.6 | 31.0 | | | | |
| 9500 | POTS | 21 GRF | 1245.0 | 1306.8 | 120.0 | 20.0 | | | | |
| 2800 | OTTA | 24 R | 1500.0 | 2120.0 | 480.0 | 12.2 | 6.0 | | | |
| 245 | SVTO | 8 S | 1523.0E | 1523.0 | U | 56.0 | | | QL=1 ST=2 TYP=3 | |
| 610 | SVTO | 8 S | 1523.0E | 1523.0 | U | 56.0 | | | QL=1 ST=3 TYP=3 | |

66
Jun 89

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

JUNE 1989

| Day | Freq | Sta | Type | Start (UT) | Time of Maximum (UT) | Duration (Min) | Flux Density Peak (10 ⁻²² W/m ² Hz) | Flux Density Mean | Int | Remarks | |
|------|-------|--------|--------|------------|----------------------|----------------|---|-------------------|------|-----------------|-----------------|
| 05 | 2800 | OTTA | 40 F | 1544.0 | 1658.0 | 100.0 | 6.9 | 2.0 | | | |
| | 610 | SGMR | 8 S | 1612.0E | 1612.0 | U | 65.0 | | | QL=1 ST=2 TYP=3 | |
| | 610 | SGMR | 8 S | 1615.0E | 1616.0 | 2.00 | 220.0 | | | QL=1 ST=2 TYP=3 | |
| | 610 | SVTO | 8 S | 1616.0E | 1617.0 | 1.00 | 130.0 | | | QL=1 ST=3 TYP=3 | |
| | 245 | SVTO | 8 S | 1616.0E | 1617.0 | 1.00 | 130.0 | | | QL=1 ST=2 TYP=3 | |
| | 410 | SVTO | 4 S/F | 1723.0E | 1727.0 | 17.00 | 210.0 | | | QL=1 ST=2 TYP=3 | |
| | 410 | PALE | 4 S/F | 1723.0E | 1726.0 | 20.00 | 330.0 | | | QL=1 ST=2 TYP=3 | |
| | 410 | SGMR | 4 S/F | 1723.0E | 1727.0 | 20.00 | 200.0 | | | QL=1 ST=2 TYP=3 | |
| | 410 | PALE | 8 S | 1745.0E | 1745.0 | 1.00 | 73.0 | | | QL=1 ST=2 TYP=3 | |
| | 410 | SVTO | 8 S | 1749.0E | 1750.0 | 1.00 | 76.0 | | | QL=1 ST=2 TYP=3 | |
| | 410 | PALE | 8 S | 1801.0E | 1802.0 | 2.00 | 200.0 | | | QL=1 ST=2 TYP=3 | |
| | 410 | SGMR | 8 S | 1801.0E | 1802.0 | 2.00 | 190.0 | | | QL=1 ST=2 TYP=3 | |
| | 410 | SGMR | 4 S/F | 1805.0E | 1809.0 | 5.00 | 140.0 | | | QL=1 ST=3 TYP=5 | |
| | 410 | PALE | 4 S/F | 1806.0E | 1809.0 | 3.00 | 160.0 | | | QL=1 ST=2 TYP=5 | |
| | 2800 | OTTA | 4 S/F | 1816.0 | 1822.0 | 8.0 | 24.8 | 11.0 | | | |
| | 245 | PALE | 8 S | 1819.0E | 1819.0 | U | 69.0 | | | QL=1 ST=2 TYP=3 | |
| | 610 | PALE | 8 S | 1819.0E | 1819.0 | 1.00 | 130.0 | | | QL=1 ST=2 TYP=3 | |
| | 610 | SGMR | 8 S | 1819.0E | 1819.0 | 1.00 | 110.0 | | | QL=1 ST=2 TYP=3 | |
| | 245 | SGMR | 8 S | 1819.0E | 1819.0 | U | 62.0 | | | QL=1 ST=2 TYP=3 | |
| | 410 | SGMR | 8 S | 1820.0E | 1820.0 | U | 56.0 | | | QL=1 ST=2 TYP=3 | |
| | 2800 | OTTA | 29 PBI | 1824.0 | 1824.0 | 62.0 | 8.5 | 4.0 | | | |
| | 245 | PALE | 8 S | 1915.0E | 1915.0 | U | 150.0 | | | QL=1 ST=2 TYP=3 | |
| | 245 | SGMR | 8 S | 1915.0E | 1915.0 | U | 130.0 | | | QL=1 ST=2 TYP=3 | |
| | 2800 | OTTA | 3 S | 2134.0 | 2136.0 | 6.0 | 220.2 | 66.0 | | | |
| | 15400 | PALE | 49 GB | 2134.0E | 2135.0 | 4.00 | 880.0 | | | QL=1 ST=2 TYP=6 | |
| | 15400 | SGMR | 49 GB | 2134.0E | 2135.0 | 11.00 | 840.0 | | | QL=1 ST=2 TYP=6 | |
| | 8800 | SGMR | 49 GB | 2134.0E | 2135.0 | 11.00 | 600.0 | | | QL=1 ST=2 TYP=6 | |
| | 2695 | PALE | 8 S | 2135.0E | 2135.0 | 2.00 | 190.0 | | | QL=1 ST=2 TYP=3 | |
| | 2695 | SGMR | 4 S/F | 2135.0E | 2135.0 | 8.00 | 190.0 | | | QL=1 ST=2 TYP=3 | |
| | 4995 | SGMR | 49 GB | 2135.0E | 2135.0 | 10.00 | 540.0 | | | QL=1 ST=2 TYP=6 | |
| | 2800 | OTTA | 29 PBI | 2141.0 | 2141.0 | 31.0 | 20.4 | 10.0 | | | |
| | 500 | HIRA | 46 C | 2341.3 | 2342.5 | 2.0 | 55.0 | | | WL | |
| | 2695 | PENT | 3 S | 2341.5 | 2343.0 | 3.0 | 67.8 | 13.0 | | | |
| | 410 | LEAR | 8 S | 2342.0E | 2342.0 | 1.00 | 58.0 | | | QL=1 ST=2 TYP=3 | |
| | 610 | LEAR | 8 S | 2342.0E | 2342.0 | 1.00 | 72.0 | | | QL=1 ST=2 TYP=3 | |
| | 610 | PALE | 8 S | 2342.0E | 2342.0 | 1.00 | 67.0 | | | QL=1 ST=2 TYP=3 | |
| | 410 | PALE | 8 S | 2342.0E | 2342.0 | 1.00 | 100.0 | | | QL=1 ST=2 TYP=3 | |
| | 06 | 15400 | LEAR | 4 S/F | 0112.0E | 0115.0 | 7.00 | 53.0 | | | QL=1 ST=2 TYP=5 |
| | | 200 | HIRA | 42 SER | 0609.1 | 0611.9 | 5.3 | 40.0 | | | 0 |
| | | 204 | IZMI | 42 SER | 0610.0 | 0614.0 | 5.0 | 39.0 | 20.0 | | |
| 100 | | GORK | 46 C | 0610.0 | 0615.1 | 6.4 | 267.0 | | | | |
| 100 | | GORK | 46 C | 0610.0 | 0615.8 | | 321.0 | | | | |
| 33 | | UPIC | 45 C | 0612.5 | 0612.7 | 1.5 | | | | | |
| 9100 | | GORK | 21 GRF | 0627.7 | 1102.3 | 333.9 | 42.0 | | | | |
| 3100 | | CRIM | 20 GRF | 0648.0 | 0658.0 | 42.0 | 7.3 | 2.0 | | | |
| 9300 | | KISV | 23 GRF | 0648.5 | 0705.2 | 109.2 | 20.0 | | | | |
| 5900 | | KISV | 23 GRF | 0648.6 | 0715.5 | 113.4 | 16.0 | | | | |
| 5900 | | KISV | 45 C | 0648.7 | 0650.2 | 7.3 | 13.0 | | | | |
| 5900 | | KISV | 45 C | 0648.7 | 0653.8 | | 6.0 | | | | |
| 2950 | | GORK | 22 GRF | 0649.2 | 0658.0 | 119.8 | 11.0 | | | | |
| 9300 | | KISV | 45 C | 0649.5 | 0651.1 | | 6.0 | | | | |
| 9300 | | KISV | 45 C | 0649.5 | 0650.1 | 2.4 | 12.0 | | | | |
| 9100 | | GORK | 1 S | 0649.6 | 0650.1 | 2.0 | 9.0 | | | | |
| 204 | | IZMI | 5 S | 0823.4 | 0824.0 | 0.8 | 70.0 | 35.0 | | | |
| 9300 | | KISV | 22 GRF | 0909.7 | 0919.3 | 40.7 | 14.0 | | | | |
| 5900 | | KISV | 2 S/F | 0910.0 | 0911.1 | 3.7 | 5.0 | | | | |
| 204 | | IZMI | 42 SER | 0914.0 | 0919.3 | 12.8 | 17.0 | 10.0 | | | |
| 33 | | UPIC | 8 S | 0914.5 | 0914.7 | 0.4 | | | | | |
| 5900 | | KISV | 2 S/F | 0915.6 | 0918.2 | 5.5 | 7.0 | | | | |
| 245 | | SVTO | 8 S | 0918.0E | 0919.0 | 1.00 | 120.0 | | | QL=1 ST=2 TYP=3 | |
| 234 | | POTS | 4 S/F | 0918.2 | 0918.8 | 1.0 | 100.0 | | | | |
| 245 | | LEAR | 8 S | 0919.0E | 0919.0 | U | 77.0 | | | QL=1 ST=2 TYP=3 | |
| 204 | | IZMI | 4 S/F | 0946.0 | 0947.0 | 2.0 | 25.0 | | | | |
| 33 | | UPIC | 46 C | 1040.5 | 1047.6 | 9.0 | | | | | |
| 430 | KRAK | 46 C | 1041.5 | 1051.0 | 10.0 | 16.0 | 5.0 | | | | |
| 3100 | CRIM | 28 PRE | 1046.0 | 1057.0 | 11.0 | 5.0 | 2.0 | | | | |
| 9500 | POTS | 4 S/F | 1053.0 | 1058.5 | 57.0 | 118.0 | | | | | |
| 5900 | KISV | 29 PBI | 1053.0 | 1100.6 | 33.0 | 21.0 | | | | | |

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

67
Jun 89

JUNE 1989

| 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 | 5900 | KISV | 4 S/F | 1053.0 | 1058.8 | 7.6 | 100.0 | | | |
| | 9300 | KISV | 29 PBI | 1053.4 | 1100.6 | 45.0 | 38.0 | | | |
| | 9300 | KISV | 4 S/F | 1053.4 | 1058.9 | 7.3 | 122.00 | | | |
| | 11800 | BERN | 3 S | 1056.0 | 1058.5 | 3.5 | 112.0 | | | |
| | 5200 | BERN | 3 S | 1056.0 | 1058.5 | 3.5 | 51.0 | | | |
| | 8400 | BERN | 3 S | 1056.0 | 1058.5 | 3.5 | 119.0 | | | |
| | 3200 | BERN | 3 S | 1056.0 | 1058.5 | 3.5 | 30.0 | | | |
| | 15000 | KISV | 4 S/F | 1056.9 | 1059.0 | 3.0 | 102.00 | | | |
| | 15000 | KISV | 29 PBI | 1056.9 | 1059.9 | 20.3 | 29.0 | | | |
| | 8800 | SGMR | 4 S/F | 1057.0E | 1058.0 | 3.00 | 150.0 | | | QL=1 ST=2 TYP=3 |
| | 2950 | GORK | 4 S/F | 1057.0 | 1059.0 | 15.0 | 344.0 | | | |
| | 3100 | CRIM | 29 PBI | 1057.0 | 1101.0 | 59.0 | 12.4 | 4.0 | | |
| | 3100 | CRIM | 3 S | 1057.0 | 1059.1 | 4.0 | 35.5 | 12.0 | | |
| | 3000 | POTS | 4 S/F | 1057.0 | 1059.3 | 3.00 | 35.0 | | | |
| | 9100 | GORK | 4 S/F | 1057.0 | 1058.8 | 5.0 | 117.0 | | | |
| | 3013 | IZMI | 5 S | 1057.7 | 1059.3 | 2.5 | 19.0 | 8.0 | | |
| | 15400 | SGMR | 8 S | 1058.0E | 1058.0 | 2.00 | 89.0 | | | QL=1 ST=2 TYP=3 |
| | 4995 | SGMR | 8 S | 1058.0E | 1058.0 | 2.00 | 63.0 | | | QL=1 ST=2 TYP=3 |
| | 430 | KRAK | 1 S | 1223.0 | 1224.0 | 1.8 | 11.0 | 5.0 | | |
| | 9500 | POTS | 3 S | 1445.0 | 1445.5 | 3.0 | 12.0 | | | |
| | 2800 | OTTA | 3 S | 1632.0 | 1632.5 | 2.0 | 32.8 | 9.0 | | |
| | 15400 | SVTO | 8 S | 1632.0E | 1632.0 | 1.00 | 82.0 | | | QL=1 ST=2 TYP=3 |
| | 4995 | SVTO | 8 S | 1632.0E | 1632.0 | 1.00 | 60.0 | | | QL=1 ST=2 TYP=3 |
| | 8800 | SVTO | 8 S | 1632.0E | 1632.0 | 1.00 | 140.0 | | | QL=1 ST=2 TYP=3 |
| | 3200 | BERN | 3 S | 1632.1 | 1632.3 | 1.0 | 30.0 | | | |
| | 5200 | BERN | 3 S | 1632.1 | 1632.3 | 1.0 | 56.0 | | | |
| | 11800 | BERN | 3 S | 1632.1 | 1632.3 | 1.0 | 54.0 | | | |
| 8400 | BERN | 3 S | 1632.1 | 1632.3 | 1.0 | 98.0 | | | | |
| 2800 | OTTA | 29 PBI | 1634.0 | 1634.0 | | 4.9 | | | | |
| 2800 | OTTA | 20 GRF | 1639.0 | 1726.0 | 165.0 | 5.0 | 2.0 | | | |
| 500 | HIRA | 21 GRF | 2105.0 | 2138.0 | 95.0 | 14.0 | 4.0 | | WR | |
| 07 | 127 | TORN | 43 NS | 1046.0 | 1100.3 | 70.0 | 40.0 | 4.0 | | V=1 |
| | 245 | SGMR | 44 NS | 2238.0E | 2238.0 | 82.00 | 62.0 | | | QL=1 ST=3 TYP=1 |
| | 245 | LEAR | 4 S/F | 0037.0E | 0038.0 | 4.00 | 210.0 | | | QL=1 ST=3 TYP=3 |
| | 245 | PALE | 8 S | 0037.0E | 0038.0 | 1.00 | 300.0 | | | QL=1 ST=2 TYP=3 |
| | 200 | HIRA | 46 C | 0037.6 | 0038.3 | 3.8 | 245.0 | | | 0 |
| | 100 | HIRA | 46 C | 0037.6 | 0042.9 | 10.6 | 294.0 | | | |
| | 8800 | PALE | 4 S/F | 0134.0E | 0135.0 | 3.00 | 220.0 | | | QL=1 ST=2 TYP=3 |
| | 15400 | PALE | 8 S | 0134.0E | 0135.0 | 1.00 | 160.0 | | | QL=1 ST=2 TYP=3 |
| | 410 | LEAR | 8 S | 0211.0E | 0212.0 | 2.00 | 470.0 | | | QL=1 ST=2 TYP=3 |
| | 410 | PALE | 49 GB | 0211.0E | 0212.0 | 1.00 | 500.0 | | | QL=1 ST=2 TYP=7 |
| | 9100 | GORK | 20 GRF | 0314.0E | 0315.0 | 23.30 | 15.0 | | | |
| | 9300 | KISV | 23 GRF | 0440.2 | 0520.0 | 44.0 | 16.0 | | | |
| | 9100 | GORK | 20 GRF | 0440.2 | 0526.2 | 65.0 | 15.0 | | | |
| | 5900 | KISV | 23 GRF | 0440.3 | 0458.5 | 73.0 | 12.0 | | | |
| | 9300 | KISV | 2 S/F | 0446.0 | 0446.7 | 3.3 | 7.0 | | | |
| | 9300 | KISV | 2 S/F | 0513.4 | 0514.1 | 2.0 | 9.0 | | | |
| | 5900 | KISV | 46 C | 0513.7 | 0514.2 | 9.9 | 7.0 | | | |
| | 5900 | KISV | 46 C | 0513.7 | 0517.3 | | 4.0 | | | |
| | 5900 | KISV | 46 C | 0513.7 | 0518.7 | | 4.0 | | | |
| | 2950 | GORK | 45 C | 0523.7 | 0526.3 | 8.9 | 5.0 | | | |
| | 2950 | GORK | 45 C | 0523.7 | 0528.7 | | 7.0 | | | |
| | 5900 | KISV | 45 C | 0524.8 | 0528.6 | 5.5 | 9.0 | | | |
| | 9300 | KISV | 2 S/F | 0525.0 | 0526.2 | 5.0 | 9.0 | | | |
| | 650 | GORK | 1 S | 0525.2 | 0526.3 | 4.8 | 2.0 | | | |
| | 950 | GORK | 2 S/F | 0525.2 | 0526.3 | 4.2 | 3.0 | | | |
| | 5900 | KISV | 2 S/F | 0550.0 | 0550.7 | 1.4 | 4.0 | | | |
| | 9300 | KISV | 2 S/F | 0550.0 | 0550.7 | 1.0 | 5.0 | | | |
| | 650 | GORK | 4 S/F | 0550.4 | 0550.7 | 0.9 | 66.0 | | | |
| | 950 | GORK | 2 S/F | 0550.4 | 0550.7 | 1.4 | 6.0 | | | |
| | 600 | HUMN | 3 S | 0551.5 | 0551.7 | 0.4 | 42.0 | 15.0 | | |
| 234 | POTS | 4 S/F | 0602.5 | 0602.9 | 1.0 | 100.0 | | | | |
| 30 | POTS | 4 S/F | 0602.6 | 0603.5 | 1.4 | 1200.0 | | | | |
| 204 | IZMI | 41 F | 0602.8 | 0603.0 | 1.0 | 260.0 | | | | |
| 100 | GORK | 8 S | 0603.3 | 0603.4 | 0.2 | 106.0 | | | | |
| 9300 | KISV | 2 S/F | 0648.0 | 0651.0 | 4.5 | 26.0 | | | | |
| 9300 | KISV | 29 PBI | 0648.0 | 0652.5 | 76.0 | 12.0 | | | | |
| 9100 | GORK | 22 GRF | 0648.1 | 0651.1 | 17.5 | 21.0 | | | | |

68
Jun 89

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

JUNE 1989

| Day | Freq | Sta | Type | Start (UT) | Time of Maximum (UT) | Duration (Min) | Flux Density | | Int | Remarks |
|-------|------|-------|---------|------------|----------------------|----------------|------------------------|-------|-----------------|-----------------|
| | | | | | | | Peak (10 -22 W/m 2 Hz) | Mean | | |
| 07 | 5900 | KISV | 4 S/F | 0648.5 | 0651.0 | 3.9 | 50.0 | | | |
| | 5900 | KISV | 29 PBI | 0648.5 | 0652.4 | 73.8 | 23.0 | | | |
| | 500 | HIRA | 4 S/F | 0649.1 | 0651.0 | 3.0 | 9.0 | | | 0 |
| | 2950 | GORK | 3 S | 0649.1 | 0651.1 | 5.8 | 12.0 | 5.0 | | |
| | 3100 | CRIM | 3 S | 0649.2 | 0651.1 | 5.0 | 16.0 | | | |
| | 650 | GORK | 46 C | 0649.2 | 0651.2 | | 5.0 | | | |
| | 650 | GORK | 46 C | 0649.2 | 0654.5 | | 10.0 | | | |
| | 650 | GORK | 46 C | 0649.2 | 0649.6 | 5.6 | 7.0 | | | |
| | 3013 | IZMI | 1 S | 0649.3 | 0651.0 | 4.0 | 12.0 | 6.0 | | |
| | 950 | GORK | 2 S/F | 0649.5 | 0651.8 | 2.4 | 3.0 | | | |
| | 1470 | POTS | 4 S/F | 0650.0 | 0650.5 | 1.7 | 9.0 | | | |
| | 5900 | KISV | 2 S/F | 0658.0 | 0701.5 | 5.1 | 5.0 | | | |
| | 5900 | KISV | 2 S/F | 0711.4 | 0712.9 | 6.9 | 5.0 | | | |
| | 9100 | GORK | 20 GRF | 0724.1 | 0821.2 | 82.9 | 11.0 | | | |
| | 9300 | KISV | 23 GRF | 0729.7 | 0732.8 | 35.0 | 12.0 | | | |
| | 5900 | KISV | 45 C | 0729.8 | 0731.3 | | 9.0 | | | |
| | 5900 | KISV | 45 C | 0729.8 | 0732.8 | 22.6 | 10.0 | | | |
| | 9500 | POTS | 20 GRF | 0730.0 | 0731.3 | 35.0 | 12.0 | | | |
| | 9300 | KISV | 2 S/F | 0730.8 | 0731.3 | 1.0 | 7.0 | | | |
| | 9300 | KISV | 2 S/F | 0814.3 | 0814.8 | 3.0 | 8.0 | | | |
| | 410 | SVTO | 8 S | 0847.0E | 0847.0 | 1.00 | 120.0 | | | QL=1 ST=2 TYP=3 |
| | 245 | SVTO | 8 S | 0847.0E | 0847.0 | 1.00 | 93.0 | | | QL=1 ST=2 TYP=3 |
| | 950 | GORK | 46 C | 0947.6 | 0951.3 | 9.7 | 25.0 | | | |
| | 950 | GORK | 46 C | 0947.6 | 0953.5 | | 66.0 | | | |
| | 9100 | GORK | 21 GRF | 0948.3 | 1052.6 | 133.7 | 21.0 | | | |
| | 650 | GORK | 46 C | 0949.0 | 0953.1 | | 16.0 | | | |
| | 650 | GORK | 46 C | 0949.0 | 0951.5 | 9.3 | 16.0 | | | |
| | 600 | HUMN | 2 S/F | 0951.5 | 0952.0 | 5.0 | 8.0 | 5.0 | | |
| | 410 | SGMR | 8 S | 0953.0E | 0954.0 | 1.00 | 140.0 | | | QL=1 ST=3 TYP=3 |
| | 410 | SVTO | 8 S | 0953.0E | 0954.0 | 1.00 | 190.0 | | | QL=1 ST=2 TYP=3 |
| | 810 | KRAK | 42 SER | 0953.0E | 0953.3 | 4.00 | 48.0 | | | |
| | 234 | POTS | 41 F | 0953.2 | 0954.2 | 1.4 | 700.0 | | | |
| | 245 | SGMR | 8 S | 0954.0E | 0954.0 | U | 260.0 | | | QL=1 ST=3 TYP=3 |
| | 245 | SVTO | 4 S/F | 0954.0E | 0954.0 | 900.00 | 210.0 | | | QL=1 ST=2 TYP=3 |
| | 40 | POTS | 8 S | 0954.1 | 0954.4 | 0.7 | 2400.0 | 800.0 | | |
| | 200 | GORK | 41 F | 0954.2 | 0954.3 | 23.8 | 1000.0 | | | |
| | 100 | GORK | 41 F | 0954.2 | 0954.5 | 22.6 | 2230.0 | | | |
| | 100 | GORK | 41 F | 0954.2 | 1011.8 | | 1911.0 | | | |
| | 200 | GORK | 41 F | 0954.2 | 1011.9 | | 16.0 | | | |
| | 204 | IZMI | 5 S | 0954.3 | 0954.5 | 0.4 | 900.0 | 700.0 | | |
| | 3100 | CRIM | 45 C | 1007.5 | 1010.0 | | 112.0 | | | |
| | 3000 | POTS | 4 S/F | 1007.5 | 1010.0 | 13.0 | 80.0 | | | |
| | 1470 | POTS | 4 S/F | 1007.5 | 1010.2 | 8.5 | 56.0 | | | |
| | 3100 | CRIM | 45 C | 1007.5 | 1008.4 | 5.0 | 77.0 | 37.0 | | |
| | 3100 | CRIM | 45 C | 1007.5 | 1009.5 | | 101.0 | | | |
| | 2950 | GORK | 46 C | 1007.7 | 1010.2 | | 77.0 | | | |
| | 2950 | GORK | 46 C | 1007.7 | 1008.5 | 4.8 | 54.0 | | | |
| | 5900 | KISV | 47 GB | 1007.7 | 1009.6 | 3.7 | 313.0 | | | |
| | 2950 | GORK | 46 C | 1007.7 | 1009.7 | | 68.0 | | | |
| | 5900 | KISV | 29 PBI | 1007.7 | 1012.9 | 6.7 | 12.0 | | | |
| 950 | GORK | 46 C | 1007.8 | 1010.2 | 7.2 | 56.0 | | | | |
| 950 | GORK | 46 C | 1007.8 | 1012.2 | | 77.0 | | | | |
| 8800 | SVTO | 4 S/F | 1008.0E | 1009.0 | 4.00 | 640.0 | | | QL=1 ST=2 TYP=3 | |
| 2695 | SVTO | 4 S/F | 1008.0E | 1010.0 | 3.00 | 80.0 | | | QL=1 ST=2 TYP=3 | |
| 1415 | SVTO | 8 S | 1008.0E | 1010.0 | 2.00 | 49.0 | | | QL=1 ST=2 TYP=3 | |
| 15400 | SVTO | 4 S/F | 1008.0E | 1009.0 | 4.00 | 440.0 | | | QL=1 ST=2 TYP=3 | |
| 4995 | SVTO | 4 S/F | 1008.0E | 1009.0 | 3.00 | 220.0 | | | QL=1 ST=2 TYP=3 | |
| 650 | GORK | 46 C | 1008.0 | 1012.1 | | 195.0 | | | | |
| 19600 | BERN | 46 C | 1008.0 | 1009.3 | 3.5 | 353.0 | | | | |
| 5200 | BERN | 46 C | 1008.0 | 1009.3 | 3.5 | 239.0 | | | | |
| 11800 | BERN | 46 C | 1008.0 | 1009.3 | 3.5 | 624.0 | | | | |
| 8400 | BERN | 46 C | 1008.0 | 1009.3 | 3.5 | 520.0 | | | | |
| 3200 | BERN | 46 C | 1008.0 | 1009.3 | 3.5 | 83.0 | | | | |
| 35000 | BERN | 46 C | 1008.0 | 1009.3 | 3.5 | 260.0 | | | | |
| 650 | GORK | 46 C | 1008.0 | 1013.5 | | 51.0 | | | | |
| 650 | GORK | 46 C | 1008.0 | 1014.5 | | 48.0 | | | | |
| 9500 | POTS | 45 C | 1008.0 | 1009.5 | 27.0 | 470.0 | | | | |
| 9300 | KISV | 47 GB | 1008.0 | 1009.6 | 3.3 | 543.0 | | | | |
| 650 | GORK | 46 C | 1008.0 | 1009.6 | 10.0 | 223.0 | | | | |

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

69
Jun 89

JUNE 1989

| 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 |
|-------|-------|--------|---------|------------|----------------------|----------------|---|---|-----------------|-----------------|
| 07 | 9300 | KISV | 29 PBI | 1008.0 | 1011.8 | 9.2 | 47.0 | | | |
| | 9100 | GORK | 4 S/F | 1008.1 | 1009.6 | 7.1 | 573.0 | | | |
| | 15000 | KISV | 29 PBI | 1008.3 | 1011.0 | 7.0 | 76.0 | | | |
| | 204 | IZHI | 41 F | 1008.3 | 1008.5 | 2.0 | 150.0 | | | |
| | 15000 | KISV | 4 S/F | 1008.3 | 1009.7 | 2.7 | 473.0 | | | |
| | 8800 | SGMR | 49 GB | 1009.0E | 1009.0 | 6.0D | 650.0 | | | QL=1 ST=2 TYP=6 |
| | 2695 | SGMR | 4 S/F | 1009.0E | 1010.0 | 6.0D | 110.0 | | | QL=1 ST=2 TYP=3 |
| | 610 | SGMR | 4 S/F | 1009.0E | 1012.0 | 3.0D | 100.0 | | | QL=1 ST=2 TYP=3 |
| | 4995 | SGMR | 4 S/F | 1009.0E | 1010.0 | 6.0D | 240.0 | | | QL=1 ST=2 TYP=3 |
| | 410 | SGMR | 4 S/F | 1009.0E | 1011.0 | 3.0D | 280.0 | | | QL=1 ST=2 TYP=3 |
| | 15400 | SGMR | 8 S | 1009.0E | 1009.0 | 2.0D | 230.0 | | | QL=1 ST=2 TYP=3 |
| | 410 | SVTO | 8 S | 1009.0E | 1010.0 | 1.0D | 130.0 | | | QL=1 ST=2 TYP=3 |
| | 1415 | SGMR | 4 S/F | 1009.0E | 1010.0 | 831.0D | 82.0 | | | QL=1 ST=1 TYP=3 |
| | 810 | KRAK | 46 C | 1009.0E | 1012.1 | | 220.0D | | | |
| | 600 | HUMN | 2 S/F | 1009.0 | 1010.5 | 7.5 | 114.0 | 15.0 | | |
| | 810 | KRAK | 46 C | 1009.0E | 1011.9 | 11.5D | 220.0D | 14.0 | | |
| | 430 | KRAK | 42 SER | 1009.5E | 1012.0 | | 200.0D | | | |
| | 430 | KRAK | 42 SER | 1009.5E | 1009.8 | 7.5D | 200.0D | | | |
| | 33 | UPIC | 45 C | 1011.5 | 1012.2 | 1.0 | | | | |
| | 245 | SVTO | 8 S | 1014.0E | 1014.0 | U | 100.0 | | | QL=1 ST=2 TYP=3 |
| | 610 | SVTO | 8 S | 1014.0E | 1014.0 | U | 390.0 | | | QL=1 ST=2 TYP=3 |
| | 3000 | POTS | 4 S/F | 1046.0 | 1048.9 | 12.0 | 46.0 | | | |
| | 3200 | BERN | 3 S | 1047.0 | 1049.0 | 4.5 | 48.0 | | | |
| | 5200 | BERN | 3 S | 1047.0 | 1049.0 | 4.5 | 105.0 | | | |
| | 11800 | BERN | 3 S | 1047.0 | 1049.0 | 4.5 | 104.0 | | | |
| | 19600 | BERN | 3 S | 1047.0 | 1049.0 | 4.5 | 63.0 | | | |
| | 8400 | BERN | 3 S | 1047.0 | 1049.0 | 4.5 | 114.0 | | | |
| | 3100 | CRIM | 3 S | 1047.0 | 1049.0 | 6.0 | 63.0 | 21.0 | | |
| | 8800 | SVTO | 4 S/F | 1047.0E | 1049.0 | 4.0D | 120.0 | | | QL=1 ST=2 TYP=3 |
| | 4995 | SVTO | 4 S/F | 1047.0E | 1048.0 | 4.0D | 110.0 | | | QL=1 ST=2 TYP=3 |
| | 3100 | CRIM | 29 PBI | 1047.0 | 1053.0 | 15.0 | 6.0 | 2.0 | | |
| | 9500 | POTS | 3 S | 1047.0 | 1049.2 | 23.0 | 92.0 | | | |
| | 2950 | GORK | 3 S | 1047.1 | 1048.8 | 3.9 | 42.0 | | | |
| | 9100 | GORK | 3 S | 1047.4 | 1049.1 | 4.3 | 104.0 | | | |
| | 9300 | KISV | 4 S/F | 1047.5U | 1049.5 | 3.1U | 94.0 | | | |
| | 9300 | KISV | 29 PBI | 1047.5E | 1050.6 | 57.4D | 40.0 | | | |
| | 15000 | KISV | 4 S/F | 1047.6 | 1049.6 | 3.2 | 66.0 | | | |
| | 15000 | KISV | 29 PBI | 1047.6 | 1050.8 | 9.4 | 36.0 | | | |
| | 15400 | SGMR | 8 S | 1048.0E | 1049.0 | 2.0D | 59.0 | | | QL=1 ST=2 TYP=3 |
| | 8800 | SGMR | 8 S | 1048.0E | 1049.0 | 2.0D | 96.0 | | | QL=1 ST=2 TYP=3 |
| | 4995 | SGMR | 4 S/F | 1048.0E | 1048.0 | 4.0D | 94.0 | | | QL=1 ST=2 TYP=3 |
| | 15400 | SVTO | 4 S/F | 1048.0E | 1049.0 | 3.0D | 95.0 | | | QL=1 ST=2 TYP=3 |
| | 2950 | GORK | 29 PBI | 1051.0 | 1051.0 | 67.1 | 19.0 | | | |
| | 15400 | PALE | 8 S | 1905.0E | 1906.0 | 1.0D | 54.0 | | | QL=1 ST=2 TYP=3 |
| | 8800 | PALE | 8 S | 1905.0E | 1906.0 | 1.0D | 55.0 | | | QL=1 ST=2 TYP=3 |
| 15400 | SGMR | 8 S | 1905.0E | 1906.0 | 1.0D | 56.0 | | | QL=1 ST=2 TYP=3 | |
| 8800 | SGMR | 8 S | 1905.0E | 1906.0 | 1.0D | 68.0 | | | QL=1 ST=2 TYP=3 | |
| 2800 | OTTA | 22 GRF | 1907.0 | 1910.5 | 75.0 | 25.7 | 7.0 | | | |
| 8800 | SGMR | 4 S/F | 1910.0E | 1912.0 | 5.0D | 69.0 | | | QL=1 ST=2 TYP=3 | |
| 4995 | SGMR | 8 S | 1912.0E | 1912.0 | U | 50.0 | | | QL=1 ST=2 TYP=3 | |
| 2800 | OTTA | 22 GRF | 2027.0 | 2044.0 | 87.0 | 16.3 | 6.0 | | | |
| 200 | HIRA | 27 RF | 2200.0 | 2313.0 | 165.0 | 40.0 | 10.0 | | WR | |
| 2800 | OTTA | 22 GRF | 2204.0 | 2212.5 | 108.0 | 28.2 | 8.0 | | | |
| 500 | HIRA | 41 F | 2220.0 | 2220.5 | 2.5 | 31.0 | | | O | |
| 410 | SGMR | 8 S | 2221.0E | 2222.0 | 1.0D | 50.0 | | | QL=1 ST=2 TYP=3 | |
| 500 | HIRA | 21 GRF | 2224.0 | 2246.0 | 163.0 | 8.0 | 4.0 | | O | |
| 245 | LEAR | 8 S | 2337.0E | 2337.0 | 1.0D | 62.0 | | | QL=1 ST=2 TYP=3 | |
| 08 | 204 | IZHI | 43 NS | 0600.0 | | 360.0 | 10.0 | | | |
| | 127 | TORN | 43 NS | 0800.0 | | 460.0 | | 10.0 | | V=2 |
| | 100 | GORK | 43 NS | 0903.0 | | 180.0D | | 5.0 | | |
| | 245 | SGMR | 44 NS | 1836.0E | 1836.0 | 15.0D | 52.0 | | | QL=1 ST=2 TYP=1 |
| | 200 | HIRA | 44 NS | 1925.0E | | 860.0D | | 21.0 | | |
| | 5900 | KISV | 2 S/F | 0401.2 | 0401.7 | 1.3 | 3.0 | | | |
| | 9100 | GORK | 22 GRF | 0648.0 | 0659.5 | 40.2 | 18.0 | | | |
| | 2950 | GORK | 20 GRF | 0655.7 | 0700.5 | 24.8 | 7.0 | | | |
| | 950 | GORK | 2 S/F | 0705.0 | 0706.0 | 2.5 | 1.0 | | | |
| | 2950 | GORK | 20 GRF | 0739.0 | 0745.0 | 19.0 | 4.0 | | | |
| 410 | LEAR | 8 S | 0807.0E | 0807.0 | 1.0D | 30.0 | | | QL=1 ST=2 TYP=3 | |

70
Jun 89

S O L A R R A D I O E M I S S I O N

Outstanding Occurrences

JUNE 1989

| Day | Freq | Sta | Type | Start (UT) | Time of Maximum (UT) | Duration (Min) | Flux Density | | Int | Remarks |
|-------|-------|-------|---------|------------|----------------------|----------------|------------------------|------|-----------------|-----------------|
| | | | | | | | Peak (10 -22 W/m 2 Hz) | Mean | | |
| 08 | 410 | SVTO | 8 S | 0807.0E | 0807.0 | 1.00 | 85.0 | | | QL=1 ST=2 TYP=3 |
| | 500 | HIRA | 42 SER | 0807.6 | 0807.8 | 7.5 | 72.0 | | | 0 |
| | 650 | GORK | 4 S/F | 0807.7 | 0808.0 | 0.4 | 36.0 | | | |
| | 610 | LEAR | 8 S | 0808.0E | 0808.0 | U | 68.0 | | | QL=1 ST=2 TYP=3 |
| | 600 | HUMN | 3 S | 0808.5 | 0808.8 | 0.4 | 60.0 | 25.0 | | |
| | 2950 | GORK | 3 S | 0814.0 | 0815.0 | 4.0 | 140.0 | | | |
| | 430 | KRAK | 46 C | 0814.0 | 0814.0 | 1.0 | 180.0 | 70.0 | | |
| | 610 | LEAR | 8 S | 0814.0E | 0814.0 | 1.00 | 36.0 | | | QL=1 ST=2 TYP=3 |
| | 15400 | LEAR | 8 S | 0814.0E | 0814.0 | 2.00 | 42.0 | | | QL=1 ST=2 TYP=3 |
| | 410 | LEAR | 8 S | 0814.0E | 0814.0 | U | 180.0 | | | QL=1 ST=2 TYP=3 |
| | 8800 | SVTO | 8 S | 0814.0E | 0814.0 | 1.00 | 86.0 | | | QL=1 ST=2 TYP=3 |
| | 410 | SVTO | 8 S | 0814.0E | 0814.0 | U | 130.0 | | | QL=1 ST=2 TYP=3 |
| | 2695 | SVTO | 8 S | 0814.0E | 0814.0 | 1.00 | 68.0 | | | QL=1 ST=2 TYP=3 |
| | 15400 | SVTO | 8 S | 0814.0E | 0814.0 | U | 56.0 | | | QL=1 ST=2 TYP=3 |
| | 1415 | SVTO | 8 S | 0814.0E | 0814.0 | 1.00 | 41.0 | | | QL=1 ST=2 TYP=3 |
| | 4995 | SVTO | 8 S | 0814.0E | 0814.0 | 1.00 | 77.0 | | | QL=1 ST=2 TYP=3 |
| | 3200 | BERN | 4 S/F | 0814.0 | 0814.3 | 1.5 | 78.0 | | | |
| | 5200 | BERN | 4 S/F | 0814.0 | 0814.3 | 1.5 | 83.0 | | | |
| | 11800 | BERN | 4 S/F | 0814.0 | 0814.3 | 1.5 | 67.0 | | | |
| | 8400 | BERN | 4 S/F | 0814.0 | 0814.3 | 1.5 | 85.0 | | | |
| | 9100 | GORK | 4 S/F | 0814.0 | 0814.5 | 3.1 | 81.0 | | | |
| | 3000 | POTS | 4 S/F | 0814.0 | 0814.5 | 5.0 | 77.0 | | | |
| | 9500 | POTS | 3 S | 0814.0 | 0814.6 | 5.0 | 65.0 | | | |
| | 950 | GORK | 4 S/F | 0814.0 | 0814.8 | 7.0 | 18.0 | | | |
| | 1470 | POTS | 3 S | 0814.0 | 0814.8 | 11.0 | 50.0 | | | |
| | 3013 | IZMI | 5 S | 0814.1 | 0814.4 | 6.0 | 85.0 | 40.0 | | |
| | 810 | KRAK | 2 S/F | 0814.2 | 0814.4 | 4.3 | 70.0 | 3.0 | | |
| | 650 | GORK | 46 C | 0814.2 | 0814.5 | 1.4 | 72.0 | | | |
| | 5900 | KISV | 4 S/F | 0814.2 | 0814.5 | 3.3 | 77.0 | | | |
| | 15000 | KISV | 2 S/F | 0814.2 | 0814.5 | 1.2 | 54.0 | | | |
| | 9300 | KISV | 4 S/F | 0814.2 | 0814.5 | 3.0 | 83.0 | | | |
| | 3100 | CRIM | 3 S | 0814.2 | 0814.6 | 4.5 | 70.0 | 23.0 | | |
| | 650 | GORK | 46 C | 0814.2 | 0814.9 | | 87.0 | | | |
| | 600 | HUMN | 3 S | 0815.0 | 0815.3 | 1.0 | 22.0 | 6.0 | | |
| | 650 | GORK | 30 PBI | 0815.6 | 0815.6 | 61.2 | 3.0 | | | |
| | 810 | KRAK | 8 S | 0819.5 | 0819.5 | 0.1 | 16.0 | | | |
| | 950 | GORK | 2 S/F | 0830.8 | 0831.0 | 1.0 | 4.0 | | | |
| | 650 | GORK | 4 S/F | 0830.9 | 0831.1 | 0.6 | 6.0 | | | |
| | 2950 | GORK | 1 S | 0844.1 | 0844.5 | 1.1 | 1.0 | | | |
| | 9100 | GORK | 21 GRF | 0906.2 | 0926.2 | 177.8 | 24.0 | | | |
| | 3000 | POTS | 45 C | 0907.00 | 0914.00 | 67.00 | 145.0 | | | |
| | 9500 | POTS | 45 C | 0907.0 | 0914.2 | 53.0 | 80.0 | | | |
| | 5900 | KISV | 45 C | 0907.1 | 0914.1 | 26.9 | 173.0 | | | |
| | 9300 | KISV | 46 C | 0907.9 | 0914.1 | 30.5 | 118.0 | | | |
| | 9300 | KISV | 46 C | 0907.9 | 0920.4 | | 38.0 | | | |
| | 9300 | KISV | 46 C | 0907.9 | 0913.8 | | 113.0 | | | |
| | 2950 | GORK | 41 F | 0908.0 | 0914.2 | | 137.0 | | | |
| | 2950 | GORK | 41 F | 0908.0 | 0909.2 | | 6.0 | | | |
| | 2950 | GORK | 41 F | 0908.0 | 0908.2 | 24.0 | 115.0 | | | |
| | 2950 | GORK | 41 F | 0908.0 | 0920.3 | | 35.0 | | | |
| | 3100 | CRIM | 30 PBI | 0912.0 | 0918.0 | 62.0 | 18.0 | 6.0 | | |
| | 3100 | CRIM | 3 S | 0912.0 | 0914.1 | 6.0 | 143.0 | 48.0 | | |
| | 2695 | SVTO | 4 S/F | 0913.0E | 0914.0 | 3.00 | 130.0 | | | QL=1 ST=2 TYP=3 |
| | 4995 | SVTO | 4 S/F | 0913.0E | 0914.0 | 3.00 | 160.0 | | | QL=1 ST=2 TYP=3 |
| | 1470 | POTS | 42 SER | 0913.0 | 0920.5 | 12.0 | 57.0 | | | |
| 15000 | KISV | 45 C | 0913.1 | 0914.3 | 28.9 | 52.0 | | | | |
| 15000 | KISV | 45 C | 0913.1 | 0920.4 | | 51.0 | | | | |
| 5200 | BERN | 4 S/F | 0913.2 | 0914.1 | 4.0 | 167.0 | | | | |
| 11800 | BERN | 4 S/F | 0913.2 | 0914.1 | 4.0 | 83.0 | | | | |
| 8400 | BERN | 4 S/F | 0913.2 | 0914.1 | 4.0 | 129.0 | | | | |
| 3200 | BERN | 4 S/F | 0913.2 | 0914.1 | 4.0 | 135.0 | | | | |
| 9100 | GORK | 46 C | 0913.3 | 0914.1 | 10.4 | 101.0 | | | | |
| 9100 | GORK | 46 C | 0913.3 | 0920.3 | | 30.0 | | | | |
| 3013 | IZMI | 5 S | 0913.4 | 0914.8 | 4.8 | 94.0 | 46.0 | | | |
| 950 | GORK | 2 S/F | 0913.6 | 0914.3 | 1.7 | 69.0 | | | | |
| 245 | SVTO | 8 S | 0919.0E | 0920.0 | 1.00 | 71.0 | | | QL=1 ST=2 TYP=3 | |
| 430 | KRAK | 4 S/F | 0919.5 | 0920.0 | 2.5 | 180.0 | 12.0 | | | |
| 810 | KRAK | 2 S/F | 0919.6 | 0920.2 | 0.6 | 22.0 | 2.0 | | | |
| 200 | GORK | 4 S/F | 0919.7 | 0920.4 | 3.3 | 21.0 | | | | |

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

71
Jun 89

JUNE 1989

| Day | Freq | Sta | Type | Start (UT) | Time of Maximum (UT) | Duration (Min) | Flux Density Peak (10 ⁻²² W/m ² Hz) | Flux Density Mean | Int | Remarks |
|-----|-------|-------|---------|------------|----------------------|----------------|---|-------------------|-----------------|-----------------|
| 08 | 3100 | CRIM | 1 S | 0919.8 | 0920.3 | 2.0 | 32.6 | 11.0 | | |
| | 650 | GORK | 4 S/F | 0919.8 | 0920.4 | 3.3 | 51.0 | | | |
| | 950 | GORK | 4 S/F | 0919.8 | 0920.4 | 3.7 | 26.0 | | | |
| | 500 | HIRA | 46 C | 0919.8 | 0920.5 | 1.4 | 47.0 | | | 0 |
| | 245 | LEAR | 8 S | 0920.0E | 0920.0 | U | 70.0 | | | QL=1 ST=2 TYP=3 |
| | 610 | LEAR | 8 S | 0920.0E | 0920.0 | 1.0D | 42.0 | | | QL=1 ST=2 TYP=3 |
| | 410 | LEAR | 8 S | 0920.0E | 0920.0 | U | 16.0 | | | QL=1 ST=2 TYP=3 |
| | 600 | HUMN | 4 S/F | 0921.0 | 0921.8 | 1.5 | 40.0 | 18.0 | | |
| | 810 | KRAK | 8 S | 0945.7 | 0946.0 | 0.6 | 24.0 | | | |
| | 2950 | GORK | 20 GRF | 0949.0 | 0956.5 | 11.3D | 6.0 | | | |
| | 2950 | GORK | 20 GRF | 1145.5E | 1158.0 | 14.5D | 7.0 | | | |
| | 1415 | SGMR | 49 GB | 1306.0E | 1306.0 | 1.0D | 910.0 | | | QL=1 ST=2 TYP=6 |
| | 1415 | SVTO | 49 GB | 1306.0E | 1306.0 | 1.0D | 830.0 | | | QL=1 ST=2 TYP=6 |
| | 3000 | POTS | 3 S | 1306.0U | 1307.0U | 4.0U | 30.0 | | | |
| | 9300 | KISV | 4 S/F | 1306.3 | 1307.0 | 3.5 | 41.0 | | | |
| | 5900 | KISV | 4 S/F | 1306.5 | 1307.0 | 3.1 | 34.0 | | | |
| | 9500 | POTS | 3 S | 1306.5 | 1307.0 | 2.5 | 32.0 | | | |
| | 1470 | POTS | 4 S/F | 1306.5 | 1306.9 | 2.5 | 119.0 | | | |
| | 810 | KRAK | 8 S | 1306.8 | 1306.8 | 0.1 | 20.0 | | | |
| | 2800 | OTTA | 3 S | 1307.0 | 1308.0 | 5.0 | 36.1 | 7.0 | | |
| | 1470 | POTS | 21 GRF | 1320.0 | 1326.5 | 10.0 | 6.0 | | | |
| | 9500 | POTS | 40 F | 1324.0 | 1325.6 | 21.0 | 9.0 | | | |
| | 5900 | KISV | 2 S/F | 1324.0 | 1325.8 | 5.6 | 13.0 | | | |
| | 2800 | OTTA | 3 S | 1325.0 | 1326.0 | 6.0 | 12.6 | 3.0 | | |
| | 3000 | POTS | 4 S/F | 1325.0 | 1325.7 | 5.0 | 10.0 | | | |
| | 9300 | KISV | 2 S/F | 1325.1 | 1325.8 | 4.3 | 13.0 | | | |
| | 600 | HUMN | 1 S | 1331.8 | 1332.0 | 1.0 | 6.0 | 3.0 | | |
| | 600 | HUMN | 2 S/F | 1350.0 | 1350.5 | 3.0 | 10.0 | 4.0 | | |
| | 600 | HUMN | 4 S/F | 1736.5 | 1738.5 | 4.0 | 33.0 | 6.0 | | |
| | 610 | SGMR | 8 S | 1737.0E | 1737.0 | 1.0D | 70.0 | | | QL=1 ST=2 TYP=3 |
| | 245 | PALE | 8 S | 1746.0E | 1746.0 | 1.0D | 83.0 | | | QL=1 ST=2 TYP=3 |
| | 245 | SGMR | 8 S | 1746.0E | 1746.0 | 2.0D | 84.0 | | | QL=1 ST=2 TYP=3 |
| | 245 | SVTO | 8 S | 1746.0E | 1746.0 | 1.0D | 91.0 | | | QL=1 ST=2 TYP=3 |
| 09 | 100 | GORK | 44 NS | 0300.0E | | 360.0D | | 5.0 | | |
| | 204 | IZHI | 43 NS | 0600.0 | | 360.0 | 20.0 | | | |
| | 234 | POTS | 44 NS | 0600.0E | 0623.0 | 89.0D | 28.0 | | | |
| | 127 | TORN | 44 NS | 0620.0E | | 540.0D | | 7.0 | | V=1 |
| | 245 | LEAR | 43 NS | 0625.0 | 0625.0 | 11.0 | 58.0 | | | QL=1 ST=2 TYP=1 |
| | 245 | LEAR | 4 S/F | 0001.0E | 0003.0 | 4.0D | 110.0 | | | QL=1 ST=2 TYP=3 |
| | 500 | HIRA | 46 C | 0002.5 | 0106.3 | | 45.0 | | | ML |
| | 500 | HIRA | 46 C | 0002.5 | 0023.4 | 72.5 | 85.0 | 24.0 | | WL |
| | 2840 | PEKG | 5 S | 0003.0 | 0022.2 | 40.0 | 277.0 | | | |
| | 200 | HIRA | 46 C | 0007.9 | 0106.0 | 76.0 | 90.0 | 47.0 | | ML |
| | 200 | HIRA | 46 C | 0007.9 | 0041.6 | | 85.0 | | | ML |
| | 610 | LEAR | 4 S/F | 0014.0E | 0023.0 | 39.0D | 89.0 | | | QL=1 ST=2 TYP=3 |
| | 1415 | PALE | 20 GRF | 0015.0E | 0021.0 | 11.0D | 190.0 | | | QL=1 ST=2 TYP=2 |
| | 2695 | PALE | 4 S/F | 0015.0E | 0020.0 | 21.0D | 240.0 | | | QL=1 ST=2 TYP=3 |
| | 410 | LEAR | 4 S/F | 0015.0E | 0106.0 | 56.0D | 89.0 | | | QL=1 ST=2 TYP=5 |
| | 100 | HIRA | 27 RF | 0016.5 | 0100.0 | 105.0D | 270.0 | | | |
| | 610 | PALE | 4 S/F | 0019.0E | 0024.0 | 7.0D | 110.0 | | | QL=1 ST=2 TYP=3 |
| | 8800 | PALE | 8 S | 0021.0E | 0021.0 | U | 60.0 | | | QL=1 ST=2 TYP=3 |
| | 410 | PALE | 4 S/F | 0021.0E | 0021.0 | 3.0D | 83.0 | | | QL=1 ST=2 TYP=3 |
| | 245 | LEAR | 4 S/F | 0021.0E | 0105.0 | 63.0D | 98.0 | | | QL=1 ST=2 TYP=5 |
| | 245 | PALE | 8 S | 0022.0E | 0023.0 | 2.0D | 120.0 | | | QL=1 ST=2 TYP=3 |
| | 15400 | LEAR | 4 S/F | 0023.0E | 0023.0 | 1417.0D | 45.0 | | | QL=1 ST=1 TYP=3 |
| | 245 | PALE | 4 S/F | 0055.0E | 0105.0 | 14.0D | 140.0 | | | QL=1 ST=2 TYP=5 |
| | 410 | PALE | 4 S/F | 0104.0E | 0105.0 | 4.0D | 100.0 | | | QL=1 ST=2 TYP=3 |
| | 610 | PALE | 8 S | 0105.0E | 0106.0 | 2.0D | 58.0 | | | QL=1 ST=2 TYP=3 |
| | 100 | HIRA | 46 C | 0106.5 | 0106.6 | 1.5 | 460.0 | | | |
| | 245 | PALE | 8 S | 0114.0E | 0114.0 | U | 93.0 | | | QL=1 ST=2 TYP=3 |
| | 100 | HIRA | 41 F | 0231.0 | 0310.0 | 76.0 | 1000.0D | | | |
| | 650 | GORK | 21 GRF | 0300.0E | 0346.1 | 152.7D | 4.0 | | | |
| | 950 | GORK | 22 GRF | 0303.0 | 0338.6 | 49.0 | 5.0 | | | |
| | 200 | HIRA | 41 F | 0313.2 | 0317.8 | 51.0 | 65.0 | | | ML |
| | 410 | LEAR | 4 S/F | 0315.0E | 0319.0 | 6.0D | 120.0 | | | QL=1 ST=2 TYP=3 |
| | 500 | HIRA | 42 SER | 0315.0 | 0325.0 | 43.0 | 305.0 | | | SL |
| 100 | GORK | 4 S/F | 0315.0 | 0315.4 | 2.3 | 2142.0 | | | | |
| 245 | LEAR | 4 S/F | 0316.0E | 0316.0 | 5.0D | 57.0 | | | QL=1 ST=2 TYP=3 | |

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

JUNE 1989

| Day | Freq Sta | Type | Start (UT) | Time of Maximum (UT) | Duration (Min) | Flux Density (10 ⁻²² W/m ² Hz) | | Int | Remarks | |
|-----------|------------|---------|------------|----------------------|----------------|--|------|------|-----------------|-----------------|
| | | | | | | Peak | Mean | | | |
| 09 | 410 PALE | 8 S | 0318.0E | 0319.0 | 1.00 | 110.0 | | | QL=1 ST=2 TYP=3 | |
| | 245 LEAR | 4 S/F | 0322.0E | 0330.0 | 11.00 | 390.0 | | | QL=1 ST=2 TYP=5 | |
| | 410 LEAR | 49 GB | 0323.0E | 0330.0 | 10.00 | 590.0 | | | QL=1 ST=2 TYP=7 | |
| | 410 PALE | 49 GB | 0323.0E | 0330.0 | 10.00 | 700.0 | | | QL=1 ST=2 TYP=7 | |
| | 610 LEAR | 4 S/F | 0325.0E | 0326.0 | 5.00 | 73.0 | | | QL=1 ST=2 TYP=3 | |
| | 610 PALE | 8 S | 0325.0E | 0326.0 | 2.00 | 85.0 | | | QL=1 ST=2 TYP=3 | |
| | 245 LEAR | 49 GB | 0334.0E | 0338.0 | 9.00 | 590.0 | | | QL=1 ST=2 TYP=7 | |
| | 245 PALE | 49 GB | 0335.0E | 0338.0 | 8.00 | 830.0 | | | QL=1 ST=2 TYP=6 | |
| | 410 PALE | 49 GB | 0336.0E | 0338.0 | 7.00 | 1100.0 | | | QL=1 ST=2 TYP=6 | |
| | 410 LEAR | 49 GB | 0336.0E | 0338.0 | 12.00 | 850.0 | | | QL=1 ST=2 TYP=6 | |
| | 650 GORK | 4 S/F | 0336.4 | 0338.3 | 5.0 | 9.0 | | | | |
| | 610 LEAR | 8 S | 0338.0E | 0339.0 | 2.00 | 12.0 | | | | QL=1 ST=2 TYP=3 |
| | 410 PALE | 4 S/F | 0345.0E | 0346.0 | 3.00 | 88.0 | | | | QL=1 ST=2 TYP=3 |
| | 245 PALE | 8 S | 0345.0E | 0346.0 | 1.00 | 81.0 | | | | QL=1 ST=2 TYP=3 |
| | 9100 GORK | 20 GRF | 0511.0 | 0548.7 | 37.7 | 9.0 | | | | |
| | 33 UPIC | 45 C | 0516.8 | 0517.5 | 1.7 | | | | | |
| | 5900 KISV | 2 S/F | 0529.5 | 0530.6 | 1.6 | 3.0 | | | | |
| | 204 IZMI | 24 R | 0620.0 | | 33.0 | 150.0 | | | | |
| | 200 HIRA | 41 F | 0623.0 | 0650.8 | 28.0 | 100.0 | | | | WL |
| | 650 GORK | 20 GRF | 0658.9 | 0659.3 | 10.7 | 2.0 | | | | |
| | 9100 GORK | 1 S | 0659.0 | 0659.5 | 1.4 | 7.0 | | | | |
| | 9300 KISV | 2 S/F | 0659.2 | 0659.7 | 1.5 | 8.0 | | | | |
| | 5900 KISV | 2 S/F | 0659.3 | 0659.7 | 1.3 | 6.0 | | | | |
| | 15000 KISV | 2 S/F | 0659.3 | 0659.8 | 0.9 | 5.0 | | | | |
| | 9100 GORK | 22 GRF | 0723.1 | 0815.4 | 115.9 | 23.0 | | | | |
| | 650 GORK | 21 GRF | 0729.8 | 0813.5 | 48.2 | 3.0 | | | | |
| | 9500 POTS | 20 GRF | 0750.0 | 0815.5 | 130.0 | 21.0 | | | | |
| | 600 HUMN | 3 S | 0756.0 | 0759.0 | 6.0 | 24.0 | | 18.0 | | |
| | 650 GORK | 46 C | 0756.1 | 0801.5 | | 32.0 | | | | |
| | 650 GORK | 46 C | 0756.1 | 0759.5 | 10.7 | 34.0 | | | | |
| | 500 HIRA | 46 C | 0756.3 | 0801.0 | 13.0 | 87.0 | | | | 0 |
| | 610 LEAR | 4 S/F | 0758.0E | 0759.0 | 4.00 | 39.0 | | | | QL=1 ST=2 TYP=3 |
| | 950 GORK | 1 S | 0758.9 | 0759.2 | 0.7 | | | | | |
| | 410 LEAR | 4 S/F | 0759.0E | 0801.0 | 4.00 | 100.0 | | | | QL=1 ST=2 TYP=3 |
| | 610 SVTO | 8 S | 0759.0E | 0759.0 | U | 52.0 | | | | QL=1 ST=2 TYP=3 |
| | 410 SVTO | 8 S | 0800.0E | 0801.0 | 2.00 | 78.0 | | | | QL=1 ST=2 TYP=3 |
| | 950 GORK | 2 S/F | 0801.0 | 0802.1 | 2.0 | 6.0 | | | | |
| | 5900 KISV | 2 S/F | 0801.2 | 0802.5 | 2.4 | 6.0 | | | | |
| | 3100 CRIM | 1 S | 0801.6 | 0802.0 | 1.5 | 5.0 | | 2.0 | | |
| | 9300 KISV | 2 S/F | 0801.6 | 0802.5 | 2.3 | 5.0 | | | | |
| | 15000 KISV | 22 GRF | 0808.6 | 0815.5 | 39.4 | 25.0 | | | | |
| | 9300 KISV | 22 GRF | 0810.0 | 0815.5 | 41.0 | 17.0 | | | | |
| | 5900 KISV | 2 S/F | 0815.2 | 0815.5 | 0.9 | 6.0 | | | | |
| | 245 LEAR | 8 S | 0831.0E | 0831.0 | U | 56.0 | | | | QL=1 ST=2 TYP=3 |
| | 5900 KISV | 2 S/F | 1018.8 | 1019.0 | 1.7 | 4.0 | | | | |
| | 2950 GORK | 20 GRF | 1024.0 | 1048.5 | 96.00 | 9.0 | | | | |
| | 15000 KISV | 2 S/F | 1025.6 | 1026.6 | 3.9 | 10.0 | | | | |
| | 9300 KISV | 2 S/F | 1026.0 | 1026.6 | 3.5 | 10.0 | | | | |
| | 5900 KISV | 45 C | 1026.3 | 1026.5 | | 7.0 | | | | |
| | 5900 KISV | 45 C | 1026.3 | 1026.7 | 2.5 | 7.0 | | | | |
| | 9100 GORK | 20 GRF | 1113.3 | 1128.2 | 49.7 | 8.0 | | | | |
| | 410 PALE | 8 S | 1708.0E | 1708.0 | U | 230.0 | | | | QL=1 ST=2 TYP=3 |
| | 410 SVTO | 8 S | 1708.0E | 1708.0 | U | 210.0 | | | | QL=1 ST=2 TYP=3 |
| | 245 PALE | 8 S | 1722.0E | 1722.0 | U | 130.0 | | | | QL=1 ST=2 TYP=3 |
| | 410 PALE | 8 S | 1722.0E | 1722.0 | U | 450.0 | | | | QL=1 ST=2 TYP=3 |
| | 410 SGMR | 8 S | 1722.0E | 1722.0 | U | 240.0 | | | | QL=1 ST=2 TYP=3 |
| | 245 SGMR | 8 S | 1722.0E | 1722.0 | U | 130.0 | | | | QL=1 ST=2 TYP=3 |
| | 410 SVTO | 8 S | 1722.0E | 1722.0 | U | 450.0 | | | | QL=1 ST=2 TYP=3 |
| 245 SVTO | 8 S | 1722.0E | 1722.0 | U | 110.0 | | | | QL=1 ST=2 TYP=3 | |
| 2800 OTTA | 4 S/F | 1911.0 | 1912.0 | 5.0 | 46.1 | | 13.0 | | | |
| 8800 SGMR | 8 S | 1916.0E | 1916.0 | 2.00 | 60.0 | | | | QL=1 ST=2 TYP=3 | |
| 4995 SGMR | 8 S | 1916.0E | 1916.0 | 1.00 | 59.0 | | | | QL=1 ST=2 TYP=3 | |
| 245 SGMR | 8 S | 2015.0E | 2016.0 | 2.00 | 70.0 | | | | QL=1 ST=2 TYP=3 | |
| 610 SGMR | 8 S | 2030.0E | 2031.0 | 1.00 | 80.0 | | | | QL=1 ST=2 TYP=3 | |
| 410 PALE | 8 S | 2204.0E | 2204.0 | U | 210.0 | | | | QL=1 ST=2 TYP=3 | |
| 245 PALE | 8 S | 2204.0E | 2204.0 | U | 200.0 | | | | QL=1 ST=2 TYP=3 | |
| 245 PALE | 49 GB | 2231.0E | 2231.0 | 1.00 | 2300.0 | | | | QL=1 ST=2 TYP=6 | |
| 245 SGMR | 49 GB | 2231.0E | 2231.0 | 2.00 | 2600.0 | | | | QL=1 ST=3 TYP=6 | |
| 500 HIRA | 42 SER | 2245.5 | 2254.8 | 15.0 | 43.0 | | | | 0 | |

S O L A R R A D I O E M I S S I O N

Outstanding Occurrences

73
Jun 89

JUNE 1989

| 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) | | | |
| 09 | 2800 | OTTA | 3 S | 2251.0 | 2253.0 | 9.0 | 72.0 | 22.0 | | | |
| | 8800 | SGMR | 4 S/F | 2251.0E | 2252.0 | 3.00 | 89.0 | | | QL=1 ST=2 TYP=3 | |
| | 15400 | SGMR | 8 S | 2251.0E | 2252.0 | 2.00 | 85.0 | | | QL=1 ST=2 TYP=3 | |
| | 610 | SGMR | 49 GB | 2252.0E | 2254.0 | 6.00 | 770.0 | | | QL=1 ST=2 TYP=6 | |
| | 4995 | SGMR | 8 S | 2252.0E | 2252.0 | 2.00 | 75.0 | | | QL=1 ST=2 TYP=3 | |
| | 2695 | SGMR | 8 S | 2252.0E | 2252.0 | 1.00 | 73.0 | | | QL=1 ST=2 TYP=3 | |
| 10 | 260 | ONDR | 44 NS | 0610.0E | 0754.6 | 580.00 | | | | | |
| | 33 | UPIC | 43 NS | 0621.5 | 0754.6 | 605.0 | | | | | |
| | 127 | TORN | 43 NS | 0934.0 | | 220.0 | | 2.0 | | V=0 | |
| | 600 | HUMN | 43 NS | 1442.0 | | 298.00 | | | | | |
| | 245 | SVTO | 43 NS | 1604.0 | 1701.0 | 111.00 | 170.0 | | | QL=1 ST=2 TYP=1 | |
| | 245 | SGMR | 44 NS | 1606.0E | 1858.0 | 470.00 | 440.0 | | | QL=1 ST=2 TYP=1 | |
| | 245 | PALE | 44 NS | 1633.0E | 1854.0 | 743.00 | 260.0 | | | QL=1 ST=2 TYP=1 | |
| | 410 | SGMR | 44 NS | 1814.0E | 1814.0 | 68.00 | 66.0 | | | QL=1 ST=2 TYP=1 | |
| | 410 | PALE | 43 NS | 1814.0 | 1857.0 | 76.00 | 96.0 | | | QL=1 ST=2 TYP=1 | |
| | 610 | SGMR | 44 NS | 1815.0E | 1816.0 | 43.00 | 69.0 | | | QL=1 ST=2 TYP=1 | |
| | 200 | HIRA | 44 NS | 1925.0E | | 860.00 | | 44.0 | | | |
| | 100 | HIRA | 44 NS | 1925.0E | 2000.0 | 860.00 | 300.00 | 130.0 | | | SUNRISE |
| | 245 | LEAR | 43 NS | 2340.0 | 0148.0 | 212.00 | 330.0 | | | | QL=1 ST=2 TYP=1 |
| | 950 | GORK | 8 S | 0330.5 | 0330.6 | 0.3 | 6.0 | | | | |
| | 9100 | GORK | 1 S | 0332.6 | 0333.5 | 1.6 | 9.0 | | | | |
| | 650 | GORK | 46 C | 0333.1 | 0333.2 | 0.5 | 27.0 | | | | |
| | 650 | GORK | 46 C | 0333.1 | 0333.5 | | 19.0 | | | | |
| | 650 | GORK | 23 GRF | 0417.1 | 0427.9 | 119.2 | 4.0 | | | | |
| | 650 | GORK | 2 S/F | 0430.9 | 0431.1 | 0.8 | 9.0 | | | | |
| | 9300 | KISV | 2 S/F | 0444.3 | 0447.3 | 6.4 | 8.0 | | | | |
| | 5900 | KISV | 2 S/F | 0445.2 | 0447.3 | 9.2 | 12.0 | | | | |
| | 9100 | GORK | 21 GRF | 0527.0 | 0624.6 | 245.0 | 27.0 | | | | |
| | 5900 | KISV | 23 GRF | 0528.4 | 0621.6 | 72.6 | 11.0 | | | | |
| | 5900 | KISV | 45 C | 0550.2 | 0558.3 | 21.8 | 19.0 | | | | |
| | 5900 | KISV | 45 C | 0550.2 | 0551.6 | | 17.0 | | | | |
| | 9300 | KISV | 23 GRF | 0550.6 | 0624.2 | 48.0 | 14.0 | | | | |
| | 9300 | KISV | 2 S/F | 0550.6 | 0551.6 | 2.7 | 14.0 | | | | |
| | 9300 | KISV | 2 S/F | 0555.5 | 0558.3 | 8.7 | 13.0 | | | | |
| | 9100 | GORK | 1 S | 0616.7 | 0617.8 | 2.1 | 8.0 | | | | |
| | 9300 | KISV | 2 S/F | 0616.9 | 0618.0 | 2.4 | 12.0 | | | | |
| | 5900 | KISV | 2 S/F | 0617.3 | 0618.0 | 1.9 | 4.0 | | | | |
| | 9100 | GORK | 2 S/F | 0621.2 | 0622.0 | 1.8 | 11.0 | | | | |
| | 15000 | KISV | 2 S/F | 0621.2 | 0621.8 | 1.9 | 9.0 | | | | |
| | 9300 | KISV | 45 C | 0621.3 | 0622.1 | | 12.0 | | | | |
| | 9300 | KISV | 45 C | 0621.3 | 0621.6 | 1.2 | 12.0 | | | | |
| | 200 | GORK | 4 S/F | 0622.2 | 0623.5 | 2.9 | 592.0 | | | | |
| | 200 | HIRA | 46 C | 0622.6 | 0623.1 | 1.6 | 595.0 | | | | 0 |
| | 100 | GORK | 46 C | 0622.6 | 0624.3 | | 517.0 | | | | |
| | 100 | GORK | 46 C | 0622.6 | 0623.6 | 2.5 | 413.0 | | | | |
| | 100 | GORK | 46 C | 0622.6 | 0624.7 | | 620.0 | | | | |
| | 40 | POTS | 4 S/F | 0622.8 | 0624.3 | 2.4 | 6000.0 | | | | |
| | 234 | POTS | 4 S/F | 0623.0 | 0624.0 | 1.5 | 100.0 | | | | |
| | 245 | SVTO | 8 S | 0623.0E | 0624.0 | 1.00 | 180.0 | | | | QL=1 ST=2 TYP=3 |
| | 204 | IZMI | 41 F | 0623.0 | 0623.5 | 1.5 | 420.0 | | | | |
| | 245 | LEAR | 8 S | 0624.0E | 0624.0 | U | 180.0 | | | | QL=1 ST=2 TYP=3 |
| | 5900 | KISV | 45 C | 0714.5 | 0715.3 | 1.8 | 4.0 | | | | |
| | 5900 | KISV | 45 C | 0714.5 | 0715.9 | | 4.0 | | | | |
| | 5900 | KISV | 2 S/F | 0724.5 | 0725.8 | 2.7 | 5.0 | | | | |
| | 3100 | CRIM | 1 S | 0724.8 | 0725.5 | 2.0 | 7.0 | | 2.0 | | |
| | 2950 | GORK | 1 S | 0725.1 | 0725.5 | 1.6 | 5.0 | | | | |
| | 100 | GORK | 41 F | 0734.6 | 0754.6 | | 31.0 | | | | |
| 100 | GORK | 41 F | 0734.6 | 0738.9 | 20.5 | 22.0 | | | | | |
| 200 | GORK | 41 F | 0748.0 | 0754.6 | | 444.0 | | | | | |
| 200 | GORK | 41 F | 0748.0 | 0748.6 | 7.7 | 21.0 | | | | | |
| 200 | HIRA | 46 C | 0752.8 | 0753.4 | 1.3 | 615.0 | | | | 0 | |
| 245 | LEAR | 8 S | 0754.0E | 0754.0 | 1.00 | 140.0 | | | | QL=1 ST=2 TYP=3 | |
| 245 | SVTO | 8 S | 0754.0E | 0754.0 | 1.00 | 140.0 | | | | QL=1 ST=2 TYP=3 | |
| 204 | IZMI | 4 S/F | 0754.0 | 0754.6 | 1.9 | 580.0 | | | | | |
| 30 | POTS | 8 S | 0754.0 | 0754.8 | 1.4 | 2800.0 | | | | | |
| 234 | POTS | 4 S/F | 0754.2 | 0754.8 | 1.7 | 250.0 | | | | | |
| 536 | ONDR | 41 F | 0801.8 | 0805.6 | 11.7 | 5.0 | | | | | |
| 5900 | KISV | 2 S/F | 0803.8 | 0805.5 | 3.4 | 4.0 | | | | | |

74
Jun 89

S O L A R R A D I O E M I S S I O N

Outstanding Occurrences

JUNE 1989

| 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 | 650 | GORK | 20 GRF | 0818.3 | 0909.0 | 75.70 | 4.0 | | | |
| | 245 | SVTO | 8 S | 0822.0E | 0822.0 | 2.00 | 190.0 | | | QL=1 ST=2 TYP=3 |
| | 2695 | SVTO | 4 S/F | 0824.0E | 0826.0 | 3.00 | 61.0 | | | QL=1 ST=2 TYP=3 |
| | 4995 | SVTO | 8 S | 0824.0E | 0826.0 | 2.00 | 64.0 | | | QL=1 ST=2 TYP=3 |
| | 9500 | POTS | 4 S/F | 0824.0 | 0826.0 | 34.0 | 43.0 | | | |
| | 3000 | POTS | 4 S/F | 0824.0 | 0825.7 | 26.00 | 65.0 | | | |
| | 3100 | CRIM | 29 PBI | 0824.2 | 0828.2 | 12.0 | 14.6 | 5.0 | | |
| | 3100 | CRIM | 45 C | 0824.2 | 0824.8 | 4.0 | 53.0 | 10.0 | | |
| | 3013 | IZMI | 5 S | 0824.2 | 0825.8 | 6.5 | 50.0 | 25.0 | | |
| | 3100 | CRIM | 45 C | 0824.2 | 0825.9 | | 60.0 | | | |
| | 1470 | POTS | 4 S/F | 0824.3 | 0824.9 | 38.0 | 28.0 | | | |
| | 9300 | KISV | 4 S/F | 0824.4 | 0825.8 | 8.6 | 52.0 | | | |
| | 9100 | GORK | 4 S/F | 0824.4 | 0825.9 | 4.6 | 46.0 | | | |
| | 950 | GORK | 1 S | 0824.5 | 0825.0 | 2.7 | 2.0 | | | |
| | 2950 | GORK | 45 C | 0824.5 | 0826.0 | | 59.0 | | | |
| | 2950 | GORK | 45 C | 0824.5 | 0824.8 | 3.2 | 50.0 | | | |
| | 15000 | KISV | 2 S/F | 0824.5 | 0825.8 | 4.0 | 41.0 | | | |
| | 5900 | KISV | 4 S/F | 0824.8 | 0825.8 | 5.7 | 67.0 | | | |
| | 2950 | GORK | 29 PBI | 0827.7 | 0827.7 | 27.6 | 24.0 | | | |
| | 204 | IZMI | 5 S | 0832.0 | 0832.4 | 0.5 | 250.0 | | | |
| | 536 | ONDR | 41 F | 0928.1 | 1026.7 | 110.0 | 14.0 | | | |
| | 808 | ONDR | 8 S | 0940.0 | 0940.3 | 4.0 | 41.0 | | | |
| | 9500 | POTS | 3 S | 0940.2 | 0940.8 | 2.3 | 13.0 | | | |
| | 1470 | POTS | 8 S | 0940.5 | 0940.7 | 0.5 | 63.0 | | | |
| | 3100 | CRIM | 1 S | 0940.6 | 0940.7 | 0.5 | 5.5 | 1.0 | | |
| | 9300 | KISV | 1 S | 0940.6 | 0940.8 | 0.5 | 8.0 | | | |
| | 810 | KRAK | 8 S | 0940.6 | 0940.8 | 0.3 | 30.0 | | | |
| | 5900 | KISV | 20 GRF | 1135.2 | 1136.9 | 17.6 | 5.0 | | | |
| | 9500 | POTS | 21 GRF | 1202.0 | 1224.0 | 88.0 | 20.0 | | | |
| | 3000 | POTS | 4 S/F | 1220.00 | 1224.0 | 7.00 | 57.0 | | | |
| | 1470 | POTS | 4 S/F | 1220.0 | 1223.5 | 20.0 | 153.0 | | | |
| | 536 | ONDR | 48 C | 1220.6 | 1222.2 | 22.0 | 64.0 | | | |
| | 9300 | KISV | 46 C | 1220.8 | 1224.1 | 9.2 | 21.0 | | | |
| | 5900 | KISV | 45 C | 1220.9 | 1224.0 | 11.9 | 26.0 | | | |
| | 5900 | KISV | 45 C | 1220.9 | 1223.6 | | 24.0 | | | |
| | 2800 | OTTA | 3 S | 1221.0 | 1224.0 | 8.0 | 61.3 | 18.0 | | |
| | 410 | SVTO | 4 S/F | 1221.0E | 1222.0 | 5.00 | 75.0 | | | QL=1 ST=2 TYP=3 |
| | 600 | HUMN | 45 C | 1221.0 | 1222.0 | 26.0 | 36.0 | 8.0 | | |
| | 234 | POTS | 29 PBI | 1221.6 | 1223.8 | 65.0 | 300.0 | | | |
| | 15000 | KISV | 46 C | 1221.8E | 1223.9 | 34.00 | 14.0 | | | |
| | 410 | SGMR | 8 S | 1222.0E | 1222.0 | 1.00 | 440.0 | | | QL=1 ST=2 TYP=3 |
| | 245 | SGMR | 4 S/F | 1222.0E | 1223.0 | 4.00 | 230.0 | | | QL=1 ST=2 TYP=3 |
| | 2695 | SGMR | 4 S/F | 1222.0E | 1223.0 | 4.00 | 54.0 | | | QL=1 ST=2 TYP=3 |
| | 610 | SGMR | 4 S/F | 1222.0E | 1222.0 | 4.00 | 68.0 | | | QL=1 ST=2 TYP=3 |
| | 1415 | SGMR | 4 S/F | 1222.0E | 1223.0 | 4.00 | 170.0 | | | QL=1 ST=2 TYP=3 |
| | 2695 | SVTO | 8 S | 1222.0E | 1224.0 | 2.00 | 59.0 | | | QL=1 ST=2 TYP=3 |
| | 1415 | SVTO | 8 S | 1222.0E | 1223.0 | 2.00 | 150.0 | | | QL=1 ST=2 TYP=3 |
| | 808 | ONDR | 5 S | 1222.0 | 1223.5 | 5.5 | 48.0 | | | |
| | 245 | SVTO | 8 S | 1223.0E | 1224.0 | 1.00 | 180.0 | | | QL=1 ST=2 TYP=3 |
| | 30 | POTS | 4 S/F | 1223.5 | 1224.0 | 1.2 | 360.0 | | | |
| 9300 | KISV | 2 S/F | 1234.6 | 1235.0 | 1.0 | 7.0 | | | | |
| 5900 | KISV | 2 S/F | 1234.7 | 1235.0 | 0.7 | 4.0 | | | | |
| 9300 | KISV | 45 C | 1240.1 | 1240.9 | 1.3 | 11.0 | | | | |
| 5900 | KISV | 45 C | 1240.6 | 1240.7 | 0.4 | 5.0 | | | | |
| 5900 | KISV | 46 C | 1249.5 | 1253.3 | | 12.0 | | | | |
| 5900 | KISV | 46 C | 1249.5 | 1254.6 | | 9.0 | | | | |
| 5900 | KISV | 46 C | 1249.5 | 1253.7 | 12.8 | 13.0 | | | | |
| 9300 | KISV | 45 C | 1250.8 | 1250.8 | 12.2 | 24.0 | | | | |
| 536 | ONDR | 42 SER | 1433.2 | 1433.8 | 4.8 | 74.0 | | | | |
| 2800 | OTTA | 22 GRF | 1449.0 | 1700.0 | 511.0 | 19.6 | 9.0 | | | |
| 245 | SVTO | 8 S | 1501.0E | 1501.0 | U | 98.0 | | | QL=1 ST=2 TYP=3 | |
| 245 | SVTO | 8 S | 1554.0E | 1555.0 | 1.00 | 200.0 | | | QL=1 ST=2 TYP=3 | |
| 245 | PALE | 8 S | 1752.0E | 1753.0 | 1.00 | 190.0 | | | QL=1 ST=2 TYP=3 | |
| 245 | PALE | 8 S | 1858.0E | 1858.0 | U | 190.0 | | | QL=1 ST=2 TYP=3 | |
| 410 | SGMR | 8 S | 2054.0E | 2054.0 | U | 110.0 | | | QL=1 ST=2 TYP=3 | |
| 245 | PALE | 8 S | 2336.0E | 2337.0 | 1.00 | 450.0 | | | QL=1 ST=2 TYP=3 | |
| 245 | LEAR | 8 S | 2337.0E | 2337.0 | U | 210.0 | | | QL=1 ST=2 TYP=3 | |
| 11 | 100 | GORK | 44 NS | 0300.0E | | 300.00 | | 10.0 | | |

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

75
Jun 89

JUNE 1989

| Day | Freq | Sta | Type | Start (UT) | Time of Maximum (UT) | Duration (Min) | Flux Density | | Int | Remarks |
|-------|-------|--------|---------|---------------|----------------------------|-------------------|-----------------|-------------------|-----------------|-----------------|
| | | | | | | | Peak (10 -22 | Mean W/m 2 Hz) | | |
| 11 | 410 | SVTO | 44 NS | 0412.0E | 0417.0 | 15.00 | 61.0 | | | QL=1 ST=2 TYP=1 |
| | 245 | LEAR | 44 NS | 0456.0E | 0920.0 | 272.00 | 200.0 | | | QL=1 ST=3 TYP=1 |
| | 245 | SVTO | 43 NS | 0456.0 | 1139.0 | 779.00 | 260.0 | | | QL=1 ST=2 TYP=1 |
| | 234 | POTS | 44 NS | 0540.0E | 0844.0 | 527.00 | 275.0 | | | |
| | 204 | IZMI | 43 NS | 0600.0 | | 360.0 | 70.0 | | | |
| | 33 | UPIC | 43 NS | 0606.3 | | 573.5 | | | | |
| | 260 | ONDR | 44 NS | 0610.0E | | 590.00 | | | | |
| | 127 | TORN | 44 NS | 0620.0E | | 560.00 | | 270.0 | | V=1 |
| | 430 | KRAK | 44 NS | 0721.5E | 1250.1 | 355.00 | 79.0 | 16.0 | | |
| | 410 | SGHR | 43 NS | 1158.0 | 1238.0 | 176.0 | 74.0 | | | |
| | 245 | PALE | 44 NS | 1635.0E | 1635.0 | 229.00 | 87.0 | | | QL=1 ST=3 TYP=1 |
| | 200 | HIRA | 44 NS | 1925.0E | 0826.0 | 860.00 | 90.0 | 23.0 | | QL=1 ST=3 TYP=1 |
| | 245 | PALE | 8 S | 0026.0E | 0027.0 | 1.00 | 370.0 | | | QL=1 ST=2 TYP=3 |
| | 245 | PALE | 8 S | 0053.0E | 0053.0 | U | 69.0 | | | QL=1 ST=2 TYP=3 |
| | 245 | PALE | 8 S | 0107.0E | 0107.0 | 1.00 | 190.0 | | | QL=1 ST=2 TYP=3 |
| | 410 | PALE | 8 S | 0146.0E | 0147.0 | 1.00 | 90.0 | | | QL=1 ST=3 TYP=3 |
| | 245 | PALE | 49 GB | 0148.0E | 0148.0 | U | 560.0 | | | QL=1 ST=3 TYP=6 |
| | 650 | GORK | 22 GRF | 0300.0E | 0413.7 | 390.00 | 10.0 | | | |
| | 245 | PALE | 8 S | 0306.0E | 0307.0 | 2.00 | 170.0 | | | QL=1 ST=2 TYP=3 |
| | 9300 | KISV | 22 GRF | 0417.1 | 0740.2 | 272.9 | 18.0 | | | |
| | 9300 | KISV | 23 GRF | 0430.3 | 0433.2 | 79.1 | 15.0 | | | |
| | 9100 | GORK | 20 GRF | 0432.5 | 0433.2 | 12.1 | 9.0 | | | |
| | 5900 | KISV | 45 C | 0432.6 | 0433.5 | 4.3 | 5.0 | | | |
| | 5900 | KISV | 45 C | 0432.6 | 0435.7 | | 4.0 | | | |
| | 15000 | KISV | 2 S/F | 0432.7 | 0433.8 | 1.6 | 7.0 | | | |
| | 245 | LEAR | 8 S | 0449.0E | 0449.0 | 1.00 | 66.0 | | | QL=1 ST=2 TYP=3 |
| | 245 | PALE | 8 S | 0449.0E | 0449.0 | 1.00 | 150.0 | | | QL=1 ST=2 TYP=3 |
| | 245 | SVTO | 8 S | 0449.0E | 0449.0 | 1.00 | 140.0 | | | QL=1 ST=2 TYP=3 |
| | 200 | HIRA | 24 R | 0450.0 | 0836.0 | 300.00 | 165.0 | 75.0 | | MR |
| | 9100 | GORK | 1 S | 0539.2 | 0539.8 | 1.3 | 6.0 | | | |
| | 9300 | KISV | 2 S/F | 0539.5 | 0539.9 | 0.4 | 6.0 | | | |
| | 245 | LEAR | 8 S | 0541.0E | 0542.0 | 2.00 | 420.0 | | | QL=1 ST=2 TYP=3 |
| | 245 | SVTO | 49 GB | 0542.0E | 0542.0 | 2.00 | 520.0 | | | QL=1 ST=3 TYP=6 |
| | 9100 | GORK | 21 GRF | 0607.6 | 0928.9 | 202.4 | 29.0 | | | |
| | 950 | GORK | 2 S/F | 0617.7 | 0618.4 | 1.3 | 5.0 | | | |
| | 204 | IZMI | 41 F | 0625.0 | 0627.0 | 3.0 | 540.0 | | | |
| | 9300 | KISV | 45 C | 0634.8E | 0636.1 | 3.3U | 4.0 | | | |
| | 2950 | GORK | 20 GRF | 0654.9 | 0715.0 | 40.6 | 5.0 | | | |
| | 9300 | KISV | 21 GRF | 0715.5 | 0716.3 | 10.5 | 17.0 | | | |
| | 9100 | GORK | 1 S | 0715.9 | 0716.2 | 0.7 | 17.0 | | | |
| | 15000 | KISV | 1 S | 0715.9 | 0716.2 | 2.2 | 14.0 | | | |
| | 5900 | KISV | 2 S/F | 0715.9 | 0716.3 | 2.8 | 5.0 | | | |
| | 9500 | POTS | 3 S | 0716.0 | 0716.3 | 1.3 | 13.0 | | | |
| | 5900 | KISV | 20 GRF | 0737.0 | 0740.3 | 19.8 | 4.0 | | | |
| | 100 | GORK | 41 F | 0748.0 | 0809.3 | 66.0 | 226.0 | | | |
| | 100 | GORK | 41 F | 0748.0 | 0823.6 | | 169.0 | | | |
| | 245 | LEAR | 8 S | 0750.0E | 0751.0 | 2.00 | 130.0 | | | QL=1 ST=2 TYP=3 |
| | 245 | SVTO | 8 S | 0750.0E | 0750.0 | 1.00 | 140.0 | | | QL=1 ST=2 TYP=3 |
| | 410 | SVTO | 8 S | 0750.0E | 0750.0 | 1.00 | 85.0 | | | QL=1 ST=2 TYP=3 |
| | 950 | GORK | 1 S | 0750.2 | 0750.9 | 1.6 | 1.0 | | | |
| | 2950 | GORK | 1 S | 0750.3 | 0750.6 | 0.9 | 3.0 | | | |
| | 2950 | GORK | 1 S | 0753.8 | 0754.0 | 6.9 | 3.0 | | | |
| | 2950 | GORK | 20 GRF | 0811.5 | 0912.5 | 78.50 | 9.0 | | | |
| 245 | SVTO | 8 S | 0816.0E | 0816.0 | U | 460.0 | | | | |
| 950 | GORK | 1 S | 0820.1 | 0820.5 | 2.9 | 2.0 | | | QL=1 ST=2 TYP=3 | |
| 5900 | KISV | 23 GRF | 0843.5 | 0916.4 | 177.0 | 45.0 | | | | |
| 15000 | KISV | 23 GRF | 0849.0 | 0914.0 | 100.8 | 50.0 | | | | |
| 9300 | KISV | 23 GRF | 0850.0 | 0929.0 | 173.4 | 27.0 | | | | |
| 9500 | POTS | 21 GRF | 0900.0 | 0912.5 | 160.0 | 23.0 | | | | |
| 5900 | KISV | 45 C | 0910.4 | 0914.0 | | 8.0 | | | | |
| 5900 | KISV | 45 C | 0910.4 | 0912.6 | 5.6 | 9.0 | | | | |
| 9300 | KISV | 45 C | 0910.6 | 0914.0 | | 15.0 | | | | |
| 9100 | GORK | 2 S/F | 0910.6 | 0912.5 | 5.1 | 23.0 | | | | |
| 9300 | KISV | 45 C | 0910.6 | 0912.5 | 8.8 | 24.0 | | | | |
| 536 | ONDR | 41 F | 0913.0 | 1214.9 | 395.0 | 37.0 | | | | |
| 9300 | KISV | 2 S/F | 0956.1 | 0956.7 | 5.3 | 32.0 | | | | |
| 15000 | KISV | 2 S/F | 0956.4 | 0956.7 | 4.2 | 52.0 | | | | |
| 9500 | POTS | 3 S | 0956.5 | 0956.7 | 2.5 | 44.0 | | | | |
| 1470 | POTS | 3 S | 0957.0 | 0957.4 | 1.0 | 46.0 | | | | |

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

JUNE 1989

| Day | Freq | Sta | Type | Start (UT) | Time of Maximum (UT) | Duration (Min) | Flux Density | | Int | Remarks |
|-------|-------|------|---------|------------|----------------------|----------------|------------------------|-------|-----------------|-----------------|
| | | | | | | | Peak (10 -22 W/m 2 Hz) | Mean | | |
| 11 | 204 | IZMI | 5 S | 1139.5 | 1139.9 | 1.0 | 900.0 | 450.0 | | |
| | 600 | HUMN | 27 RF | 1148.0 | 1217.0 | 90.0 | 22.0 | 8.0 | | |
| | 204 | IZMI | 41 F | 1157.5 | 1159.0 | 2.5 | 1500.0 | | | |
| | 1470 | POTS | 42 SER | 1218.5 | 1227.2 | 10.0 | 38.0 | | | |
| | 5900 | KISV | 2 S/F | 1339.5 | 1342.7 | 6.4 | 15.0 | | | |
| | 9500 | POTS | 4 S/F | 1341.0 | 1342.5 | 3.0 | 17.0 | | | |
| | 245 | SVTO | 8 S | 1527.0E | 1527.0 | U | 320.0 | | | QL=1 ST=2 TYP=3 |
| | 600 | HUMN | 2 S/F | 1642.0 | 1643.0 | 4.0 | 10.0 | 3.0 | | |
| | 410 | SGMR | 8 S | 1836.0E | 1836.0 | U | 85.0 | | | QL=1 ST=2 TYP=3 |
| | 245 | SGMR | 8 S | 1836.0E | 1836.0 | 1.00 | 92.0 | | | QL=1 ST=2 TYP=3 |
| | 610 | SGMR | 8 S | 1836.0E | 1836.0 | U | 100.0 | | | QL=1 ST=2 TYP=3 |
| | 610 | SGMR | 8 S | 1859.0E | 1859.0 | U | 52.0 | | | QL=1 ST=3 TYP=3 |
| | 245 | SGMR | 8 S | 1900.0E | 1900.0 | U | 98.0 | | | QL=1 ST=3 TYP=3 |
| | 410 | SGMR | 8 S | 1900.0E | 1900.0 | U | 62.0 | | | QL=1 ST=3 TYP=3 |
| | 100 | HIRA | 45 C | 2156.8 | 2157.7 | 3.0 | 1000.0 | | | O |
| | 200 | HIRA | 46 C | 2156.8 | 2156.8 | 2.2 | 95.0 | | | |
| | 410 | PALE | 8 S | 2157.0E | 2157.0 | 1.00 | 180.0 | | | QL=1 ST=2 TYP=3 |
| | 245 | PALE | 8 S | 2157.0E | 2157.0 | 1.00 | 340.0 | | | QL=1 ST=2 TYP=3 |
| | 410 | SGMR | 8 S | 2157.0E | 2157.0 | 1.00 | 260.0 | | | QL=1 ST=2 TYP=3 |
| | 245 | SGMR | 8 S | 2157.0E | 2157.0 | U | 250.0 | | | QL=1 ST=2 TYP=3 |
| | 500 | HIRA | 46 C | 2157.0 | 2157.6 | 3.0 | 118.0 | | | ML |
| | 245 | PALE | 8 S | 2236.0E | 2236.0 | U | 110.0 | | | QL=1 ST=2 TYP=3 |
| | 245 | PALE | 4 S/F | 2355.0E | 2356.0 | 8.00 | 190.0 | | | QL=1 ST=2 TYP=3 |
| | 245 | LEAR | 8 S | 2356.0E | 2356.0 | U | 150.0 | | | QL=1 ST=2 TYP=3 |
| 12 | 245 | LEAR | 44 NS | 0135.0E | 0135.0 | 25.00 | 73.0 | | | QL=1 ST=2 TYP=1 |
| | 245 | PALE | 43 NS | 0157.0 | 0401.0 | 163.00 | 250.0 | | | QL=1 ST=2 TYP=1 |
| | 245 | SVTO | 44 NS | 0351.0E | 0751.0 | 845.00 | 180.0 | | | QL=1 ST=2 TYP=1 |
| | 234 | POTS | 44 NS | 0538.0E | 0736.00 | 544.00 | 80.00 | | | |
| | 204 | IZMI | 43 NS | 0600.0 | | 360.0 | 50.0 | | | |
| | 260 | ONDR | 44 NS | 0600.0E | | 590.00 | | | | |
| | 127 | TORN | 44 NS | 0620.0E | | 560.00 | | 55.0 | | V=1 |
| | 100 | GORK | 43 NS | 0700.0 | | 300.00 | | 5.0 | | |
| | 430 | KRAK | 44 NS | 0718.5E | 0734.7 | 214.00 | 53.0 | 14.0 | | |
| | 245 | SGMR | 44 NS | 0942.0E | 1938.0 | 855.00 | 500.0 | | | QL=1 ST=2 TYP=1 |
| | 410 | SGMR | 44 NS | 1404.0E | 1405.0 | 229.00 | 72.0 | | | QL=1 ST=2 TYP=1 |
| | 245 | PALE | 44 NS | 1629.0E | 0327.0 | 747.00 | 380.0 | | | QL=1 ST=2 TYP=1 |
| | 100 | HIRA | 44 NS | 1925.0E | 2036.0 | 860.00 | 80.0 | 15.0 | | |
| | 200 | HIRA | 44 NS | 1925.0E | 0328.0 | 860.00 | 230.0 | 129.0 | | MR |
| | 245 | LEAR | 43 NS | 2318.0 | 0750.0 | 610.00 | 280.0 | | | QL=1 ST=2 TYP=1 |
| | 245 | LEAR | 4 S/F | 0121.0E | 0122.0 | 4.00 | 61.0 | | | QL=1 ST=2 TYP=3 |
| | 245 | PALE | 8 S | 0121.0E | 0122.0 | 1.00 | 130.0 | | | QL=1 ST=2 TYP=3 |
| | 245 | PALE | 8 S | 0135.0E | 0135.0 | 1.00 | 90.0 | | | QL=1 ST=2 TYP=3 |
| | 410 | LEAR | 8 S | 0150.0E | 0150.0 | U | 170.0 | | | QL=1 ST=2 TYP=3 |
| | 410 | PALE | 8 S | 0150.0E | 0150.0 | 2.00 | 90.0 | | | QL=1 ST=2 TYP=3 |
| | 9100 | GORK | 23 GRF | 0257.0E | 1139.9 | 553.00 | 43.0 | | | |
| | 650 | GORK | 22 GRF | 0300.0E | 0741.9 | 333.80 | 19.0 | | | |
| | 245 | LEAR | 8 S | 0327.0E | 0327.0 | U | 160.0 | | | QL=1 ST=2 TYP=3 |
| | 245 | PALE | 49 GB | 0327.0E | 0327.0 | U | 520.0 | | | QL=1 ST=2 TYP=6 |
| | 9100 | GORK | 1 S | 0340.6 | 0341.0 | 0.8 | 13.0 | | | |
| | 245 | LEAR | 8 S | 0523.0E | 0524.0 | 1.00 | 270.0 | | | QL=1 ST=3 TYP=3 |
| | 245 | SVTO | 8 S | 0523.0E | 0524.0 | 1.00 | 300.0 | | | QL=1 ST=2 TYP=3 |
| | 9100 | GORK | 1 S | 0528.7 | 0528.9 | 3.1 | 16.0 | | | |
| | 9300 | KISV | 2 S/F | 0528.9 | 0529.2 | 7.4 | 14.0 | | | |
| | 200 | GORK | 41 F | 0608.1 | 0645.0 | 181.2 | 333.0 | | | |
| | 100 | GORK | 2 S/F | 0608.1 | 0608.8 | 0.9 | 15.0 | | | |
| | 200 | GORK | 41 F | 0608.1 | 0830.9 | | 333.0 | | | |
| | 245 | LEAR | 8 S | 0611.0E | 0611.0 | U | 180.0 | | | QL=1 ST=3 TYP=3 |
| | 9300 | KISV | 4 S/F | 0615.2 | 0619.3 | 4.6 | 56.0 | | | |
| | 245 | LEAR | 8 S | 0616.0E | 0617.0 | 2.00 | 450.0 | | | QL=1 ST=3 TYP=3 |
| | 9100 | GORK | 3 S | 0618.2 | 0619.3 | 3.9 | 68.0 | | | |
| | 15000 | KISV | 3 S | 0618.6 | 0619.3 | 3.4 | 133.0 | | | |
| | 15400 | LEAR | 8 S | 0619.0E | 0619.0 | U | 160.0 | | | QL=1 ST=3 TYP=3 |
| 8800 | SVTO | 8 S | 0619.0E | 0619.0 | U | 70.0 | | | QL=1 ST=2 TYP=3 | |
| 15400 | SVTO | 8 S | 0619.0E | 0619.0 | 1.00 | 180.0 | | | QL=1 ST=2 TYP=3 | |
| 5900 | KISV | 1 S | 0619.1 | 0619.3 | 1.2 | 7.0 | | | | |
| 8400 | BERN | 3 S | 0635.4 | 0635.5 | 0.5 | 21.0 | | | | |
| 5200 | BERN | 3 S | 0635.4 | 0635.5 | 0.5 | 10.0 | | | | |
| 11800 | BERN | 3 S | 0635.4 | 0635.5 | 0.5 | 13.0 | | | | |

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

77
Jun 89

JUNE 1989

| Day | Freq | Sta | Type | Start (UT) | Time of Maximum (UT) | Duration (Min) | Flux Density | | Int | Remarks |
|------|-------|--------|---------|------------|----------------------|----------------|--|------|-----------------|-----------------|
| | | | | | | | Peak (10 ⁻²² W/m ² Hz) | Mean | | |
| 12 | 9100 | GORK | 1 S | 0635.5 | 0635.8 | 1.5 | 28.0 | | | |
| | 9300 | KISV | 2 S/F | 0635.5 | 0635.9 | 4.2 | 27.0 | | | |
| | 5900 | KISV | 2 S/F | 0635.5 | 0635.9 | 23.0 | 25.0 | | | |
| | 600 | HUMN | 27 RF | 0706.0 | 0739.0 | 86.0 | 12.0 | 4.0 | | |
| | 5900 | KISV | 22 GRF | 0716.3 | 0717.3 | 20.0 | 8.0 | | | |
| | 9300 | KISV | 2 S/F | 0716.5 | 0718.3 | 4.1 | 10.0 | | | |
| | 9300 | KISV | 2 S/F | 0750.3 | 0751.4 | 3.1 | 9.0 | | | |
| | 9300 | KISV | 23 GRF | 0821.4 | 0822.7 | 11.4 | 9.0 | | | |
| | 234 | POTS | 4 S/F | 0914.1 | 0914.4 | 0.9 | 275.0 | | | |
| | 245 | SGMR | 8 S | 0947.0E | 0947.0 | 1.0D | 430.0 | | | QL=1 ST=3 TYP=3 |
| | 234 | POTS | 4 S/F | 0947.8 | 0948.5 | 0.9 | 275.0 | | | |
| | 2950 | GORK | 20 GRF | 1044.7 | 1137.5 | 75.3D | 6.0 | | | |
| | 9100 | GORK | 2 S/F | 1046.2 | 1046.7 | 3.3 | 10.0 | | | |
| | 5900 | KISV | 2 S/F | 1046.4 | 1047.1 | 3.2 | 20.0 | | | |
| | 9300 | KISV | 2 S/F | 1046.4 | 1046.7 | 0.7 | 12.0 | | | |
| | 536 | ONDR | 8 S | 1104.5 | 1105.1 | 1.3 | 44.0 | | | |
| | 610 | SGMR | 8 S | 1105.0E | 1105.0 | 1.0D | 170.0 | | | QL=1 ST=3 TYP=5 |
| | 245 | SGMR | 8 S | 1105.0E | 1105.0 | U | 320.0 | | | QL=1 ST=3 TYP=3 |
| | 650 | GORK | 46 C | 1105.2 | 1106.0 | | 47.0 | | | |
| | 650 | GORK | 46 C | 1105.2 | 1105.5 | 2.3 | 225.0 | | | |
| | 5900 | KISV | 45 C | 1105.4 | 1105.6 | 1.2 | 8.0 | | | |
| | 9300 | KISV | 2 S/F | 1105.5 | 1105.6 | 1.5 | 12.0 | | | |
| | 600 | HUMN | 3 S | 1105.5 | 1105.8 | 0.5 | 38.0 | 15.0 | | |
| | 200 | GORK | 41 F | 1108.5 | 1108.6 | 15.0 | 250.0 | | | |
| | 200 | GORK | 41 F | 1108.5 | 1109.9 | | 250.0 | | | |
| | 9500 | POTS | 20 GRF | 1133.0 | 1140.5 | 25.0 | 18.0 | | | |
| | 9500 | POTS | 3 S | 1200.0 | 1200.7 | 4.0 | 33.0 | | | |
| | 9100 | GORK | 1 S | 1200.2 | 1200.7 | 1.9 | 37.0 | | | |
| | 19600 | BERN | 4 S/F | 1200.3 | 1200.5 | 1.0 | 38.0 | | | |
| | 11800 | BERN | 4 S/F | 1200.3 | 1200.5 | 1.0 | 88.0 | | | |
| | 8400 | BERN | 4 S/F | 1200.3 | 1200.5 | 1.0 | 27.0 | | | |
| | 9500 | POTS | 42 SER | 1223.0 | 1229.1 | 27.0 | 28.0 | | | |
| | 3000 | POTS | 4 S/F | 1226.5 | 1229.4 | 6.5 | 48.0 | | | |
| | 2800 | OTTA | 3 S | 1227.0 | 1229.5 | 5.0 | 48.4 | 14.0 | | |
| | 1470 | POTS | 3 S | 1227.5 | 1229.3 | 5.5 | 16.0 | | | |
| | 4995 | SGMR | 8 S | 1228.0E | 1229.0 | 1.0D | 59.0 | | | QL=1 ST=2 TYP=3 |
| | 3100 | CRIM | 3 S | 1228.5 | 1229.3 | 3.0 | 39.0 | 13.0 | | |
| | 2800 | OTTA | 24 R | 1232.0 | 1232.0 | 640.0D | 10.5 | | | |
| | 245 | SGMR | 8 S | 1312.0E | 1312.0 | U | 380.0 | | | QL=1 ST=2 TYP=3 |
| | 9300 | KISV | 2 S/F | 1340.7 | 1341.0 | 3.7 | 10.0 | | | |
| | 5900 | KISV | 45 C | 1340.8 | 1341.1 | 1.5 | 6.0 | | | |
| | 8400 | BERN | 3 S | 1629.1 | 1629.3 | 1.5 | 26.0 | | | |
| | 5200 | BERN | 3 S | 1629.1 | 1629.3 | 1.5 | 6.0 | | | |
| | 11800 | BERN | 3 S | 1629.1 | 1629.3 | 1.5 | 28.0 | | | |
| 2800 | OTTA | 21 GRF | 1650.0 | 1658.0 | 35.0 | 12.6 | 5.0 | | | |
| 410 | PALE | 8 S | 1908.0E | 1908.0 | 2.0D | 430.0 | | | QL=1 ST=2 TYP=3 | |
| 245 | PALE | 8 S | 1908.0E | 1908.0 | 1.0D | 210.0 | | | QL=1 ST=3 TYP=3 | |
| 245 | SGMR | 8 S | 1909.0E | 1909.0 | 1.0D | 360.0 | | | QL=1 ST=2 TYP=3 | |
| 245 | PALE | 8 S | 1936.0E | 1937.0 | 1.0D | 400.0 | | | QL=1 ST=3 TYP=3 | |
| 245 | SGMR | 49 GB | 2011.0E | 2012.0 | 1.0D | 1100.0 | | | QL=1 ST=3 TYP=6 | |
| 610 | SGMR | 8 S | 2230.0E | 2230.0 | U | 52.0 | | | QL=1 ST=2 TYP=3 | |
| 13 | 100 | GORK | 43 NS | 0253.0 | | 487.0 | | 6.0 | | |
| | 410 | PALE | 44 NS | 0315.0E | 0322.0 | 24.0D | 100.0 | | | QL=1 ST=2 TYP=1 |
| | 245 | SVTO | 44 NS | 0340.0E | 1525.0 | 856.0D | 450.0 | | | QL=1 ST=2 TYP=1 |
| | 234 | POTS | 44 NS | 0537.0E | 1232.0 | 561.0D | 190.0 | | | |
| | 204 | IZMI | 43 NS | 0600.0 | | 360.0 | 50.0 | | | |
| | 260 | ONDR | 44 NS | 0600.0E | | 590.0D | | | | |
| | 127 | TORN | 44 NS | 0620.0E | | 560.0D | | 65.0 | | V=1 |
| | 245 | SGMR | 44 NS | 0939.0E | 1425.0 | 861.0D | 570.0 | | | QL=1 ST=3 TYP=1 |
| | 410 | SGMR | 44 NS | 1300.0E | 1303.0 | 249.0D | 96.0 | | | QL=1 ST=2 TYP=1 |
| | 245 | PALE | 44 NS | 1629.0E | 0327.0 | 747.0D | 380.0 | | | QL=1 ST=2 TYP=1 |
| | 245 | PALE | 44 NS | 1630.0E | 2056.0 | 747.0D | 450.0 | | | QL=1 ST=2 TYP=1 |
| | 200 | HIRA | 44 NS | 1925.0E | 2029.0 | 860.0D | 170.0 | 32.0 | | SR |
| | 245 | LEAR | 44 NS | 2318.0E | 0910.0 | 610.0D | 830.0 | | | QL=1 ST=2 TYP=1 |
| | 245 | PALE | 8 S | 0019.0E | 0019.0 | U | 330.0 | | | QL=1 ST=3 TYP=3 |
| | 2840 | PEKG | 1 S | 0207.0 | 0207.6 | 2.0 | 9.5 | | | |
| | 245 | PALE | 8 S | 0234.0E | 0235.0 | 1.0D | 300.0 | | | QL=1 ST=2 TYP=3 |
| | 2840 | PEKG | 1 S | 0313.3 | 0314.8 | 3.0 | 7.4 | | | |

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

JUNE 1989

| 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) | | |
| 13 | 650 | GORK | 22 | GRF | 0313.6 | 0451.0 | 150.6 | 9.0 | | |
| | 2950 | GORK | 21 | GRF | 0314.7 | 1139.0 | 525.30 | 38.0 | | |
| | 9100 | GORK | 23 | GRF | 0355.3 | 1134.8 | 484.7 | 75.0 | | |
| | 950 | GORK | 1 | S | 0527.8 | 0531.8 | 5.3 | 1.0 | | |
| | 536 | ONDR | 8 | S | 0606.8 | 0607.1 | 0.7 | 26.0 | | |
| | 410 | LEAR | 4 | S/F | 0614.0E | 0615.0 | 3.00 | 50.0 | | QL=1 ST=2 TYP=3 |
| | 245 | LEAR | 8 | S | 0615.0E | 0615.0 | 2.00 | 51.0 | | QL=1 ST=2 TYP=3 |
| | 410 | SVTO | 8 | S | 0615.0E | 0615.0 | U | 170.0 | | QL=1 ST=2 TYP=3 |
| | 245 | SVTO | 8 | S | 0615.0E | 0615.0 | U | 51.0 | | QL=1 ST=2 TYP=3 |
| | 9300 | KISV | 2 | S/F | 0615.3 | 0615.5 | 3.4 | 12.0 | | |
| | 5900 | KISV | 2 | S/F | 0615.4 | 0615.5 | 0.5 | 11.0 | | |
| | 950 | GORK | 1 | S | 0615.4 | 0615.6 | 0.6 | 1.0 | | |
| | 9300 | KISV | 46 | C | 0626.9 | 0628.7 | 7.1 | 18.0 | | |
| | 9100 | GORK | 2 | S/F | 0627.4 | 0629.2 | 4.5 | 15.0 | | |
| | 5900 | KISV | 46 | C | 0627.6 | 0630.0 | | 13.0 | | |
| | 5900 | KISV | 46 | C | 0627.6 | 0629.3 | | 16.0 | | |
| | 5900 | KISV | 46 | C | 0627.6 | 0628.7 | 4.1 | 20.0 | | |
| | 950 | GORK | 2 | S/F | 0627.8 | 0628.6 | 3.9 | 1.0 | | |
| | 15000 | KISV | 1 | S | 0653.3 | 0653.5 | 0.3 | 19.0 | | |
| | 3000 | POTS | 21 | GRF | 0700.0U | 0813.0 | 145.0U | 25.0 | | |
| | 9500 | POTS | 21 | GRF | 0710.0U | 0720.8 | 85.0U | 15.0 | | |
| | 9300 | KISV | 22 | GRF | 0719.2 | 0846.3 | 100.8 | 16.0 | | |
| | 9300 | KISV | 46 | C | 0732.2 | 0739.0 | | 19.0 | | |
| | 9300 | KISV | 46 | C | 0732.2 | 0809.5 | | 24.0 | | |
| | 9300 | KISV | 46 | C | 0732.2 | 0812.9 | 47.2 | 23.0 | | |
| | 245 | SVTO | 8 | S | 0750.0E | 0750.0 | U | 220.0 | | QL=1 ST=2 TYP=3 |
| | 234 | POTS | 4 | S/F | 0750.0 | 0750.7 | 1.4 | 300.0 | | |
| | 9100 | GORK | 2 | S/F | 0809.3 | 0809.6 | 0.8 | 18.0 | | |
| | 15000 | KISV | 2 | S/F | 0809.5 | 0809.7 | 0.6 | 19.0 | | |
| | 9100 | GORK | 1 | S | 0811.7 | 0812.8 | 4.3 | 20.0 | | |
| | 15000 | KISV | 2 | S/F | 0811.9 | 0813.3 | 4.9 | 19.0 | | |
| | 3100 | CRIM | 1 | S | 0812.0 | 0812.8 | 2.0 | 15.0 | 5.0 | |
| | 8400 | BERN | 3 | S | 0812.3 | 0812.5 | 1.5 | 18.0 | | |
| | 11800 | BERN | 3 | S | 0812.3 | 0812.5 | 1.5 | 16.0 | | |
| | 5200 | BERN | 3 | S | 0812.3 | 0812.5 | 1.5 | 13.0 | | |
| | 2950 | GORK | 1 | S | 0812.3 | 0812.8 | 2.5 | 15.0 | | |
| | 5900 | KISV | 45 | C | 0812.3 | 0812.9 | 1.9 | 28.0 | | |
| | 650 | GORK | 22 | GRF | 0821.9 | 0830.5 | 24.5 | 8.0 | | |
| | 430 | KRAK | 8 | S | 0847.0 | 0847.3 | 0.4 | 40.0 | | |
| | 9100 | GORK | 1 | S | 0940.7 | 0941.1 | 1.5 | 8.0 | | |
| | 9100 | GORK | 1 | S | 0946.6 | 0948.6 | 3.8 | 10.0 | | |
| | 650 | GORK | 1 | S | 0954.1 | 0954.3 | 0.4 | 1.0 | | |
| | 950 | GORK | 8 | S | 0954.2 | 0954.2 | 0.3 | 5.0 | | |
| | 9500 | POTS | 21 | GRF | 1100.0 | 1330.0 | 230.00 | 53.0 | | |
| | 3000 | POTS | 20 | GRF | 1100.0 | 1229.0 | 230.00 | 32.0 | | |
| 9100 | GORK | 2 | S/F | 1103.4 | 1104.3 | 3.9 | 22.0 | | | |
| 9300 | KISV | 45 | C | 1103.5 | 1104.4 | 10.9 | 26.0 | | | |
| 9300 | KISV | 23 | GRF | 1103.5 | 1135.4 | 130.7 | 54.0 | | | |
| 9300 | KISV | 45 | C | 1103.5 | 1105.9 | | 20.0 | | | |
| 15000 | KISV | 23 | GRF | 1103.7 | 1135.5 | 52.5 | 26.0 | | | |
| 1470 | POTS | 20 | GRF | 1110.0 | 1307.0 | 220.00 | 25.0 | | | |
| 15000 | KISV | 1 | S | 1111.7 | 1111.8 | 0.7 | 10.0 | | | |
| 810 | KRAK | 1 | S | 1114.0 | 1114.8 | 1.3 | 5.0 | 2.0 | | |
| 536 | ONDR | 8 | S | 1134.3 | 1134.5 | 1.0 | 41.0 | | | |
| 2800 | OTTA | 22 | GRF | 1208.0 | 1322.0 | 245.0 | 22.2 | 11.0 | | |
| 9300 | KISV | 22 | GRF | 1215.7 | 1235.0 | 35.0 | 23.0 | | | |
| 9300 | KISV | 23 | GRF | 1321.8 | 1329.9 | 16.8 | 22.0 | | | |
| 9300 | KISV | 2 | S/F | 1351.7 | 1352.1 | 2.9 | 33.0 | | | |
| 9500 | POTS | 3 | S | 1351.8 | 1352.2 | 2.2 | 59.0 | | | |
| 15000 | KISV | 2 | S/F | 1351.9 | 1352.9 | 3.1 | 33.0 | | | |
| 234 | POTS | 4 | S/F | 1412.1 | 1412.7 | 1.1 | 360.0 | | | |
| 245 | SVTO | 8 | S | 1420.0E | 1420.0 | 1.00 | 260.0 | | QL=1 ST=2 TYP=3 | |
| 245 | SVTO | 8 | S | 1433.0E | 1434.0 | 1.00 | 320.0 | | QL=1 ST=2 TYP=3 | |
| 410 | SVTO | 8 | S | 1435.0E | 1435.0 | 1.00 | 68.0 | | QL=1 ST=2 TYP=3 | |
| 245 | SGMR | 49 | GB | 1437.0E | 1439.0 | 2.00 | 1600.0 | | QL=1 ST=2 TYP=7 | |
| 245 | SVTO | 49 | GB | 1437.0E | 1439.0 | 3.00 | 1000.0 | | QL=1 ST=2 TYP=6 | |
| 245 | PALE | 8 | S | 1722.0E | 1722.0 | U | 240.0 | | QL=1 ST=2 TYP=3 | |
| 8800 | PALE | 4 | S/F | 1941.0E | 1942.0 | 3.00 | 120.0 | | QL=1 ST=2 TYP=3 | |
| 245 | PALE | 8 | S | 1945.0E | 1945.0 | 1.00 | 190.0 | | QL=1 ST=2 TYP=3 | |

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

79
Jun 89

JUNE 1989

| Day | Freq | Sta | Type | Start (UT) | Time of Maximum (UT) | Duration (Min) | Flux Density Peak (10 ⁻²² W/m ² Hz) | Flux Density Mean | Int | Remarks |
|-------|-------|--------|---------|------------|----------------------|----------------|---|-------------------|-----------------|-----------------|
| 13 | 245 | PALE | 4 S/F | 2039.0E | 2042.0 | 4.00 | 330.0 | | | QL=1 ST=3 TYP=3 |
| | 245 | PALE | 49 GB | 2058.0E | 2058.0 | U | 1200.0 | | | QL=1 ST=2 TYP=6 |
| | 245 | SGMR | 49 GB | 2058.0E | 2058.0 | U | 1000.0 | | | QL=1 ST=2 TYP=6 |
| | 245 | PALE | 8 S | 2308.0E | 2308.0 | U | 170.0 | | | QL=1 ST=2 TYP=3 |
| | 410 | LEAR | 8 S | 2323.0E | 2323.0 | U | 72.0 | | | QL=1 ST=2 TYP=3 |
| | 410 | PALE | 8 S | 2323.0E | 2323.0 | U | 130.0 | | | QL=1 ST=2 TYP=3 |
| | 410 | SGMR | 8 S | 2323.0E | 2323.0 | U | 81.0 | | | QL=1 ST=2 TYP=3 |
| | 500 | HIRA | 46 C | 2345.0 | 2350.0 | 5.5 | 326.0 | | | 0 |
| | 610 | LEAR | 4 S/F | 2346.0E | 2349.0 | 4.00 | 220.0 | | | QL=1 ST=2 TYP=5 |
| | 410 | LEAR | 8 S | 2349.0E | 2350.0 | 1.00 | 91.0 | | | QL=1 ST=2 TYP=3 |
| | 610 | PALE | 8 S | 2349.0E | 2349.0 | 1.00 | 240.0 | | | QL=1 ST=2 TYP=3 |
| | 8800 | PALE | 8 S | 2349.0E | 2350.0 | 1.00 | 70.0 | | | QL=1 ST=2 TYP=3 |
| | 410 | PALE | 8 S | 2349.0E | 2350.0 | 1.00 | 80.0 | | | QL=1 ST=2 TYP=3 |
| | 610 | SGMR | 8 S | 2349.0E | 2349.0 | 1.00 | 100.0 | | | QL=1 ST=3 TYP=3 |
| 410 | SGMR | 8 S | 2350.0E | 2350.0 | U | 69.0 | | | QL=1 ST=3 TYP=3 | |
| 14 | 100 | GORK | 44 NS | 0251.0E | | 210.00 | | 5.0 | | |
| | 245 | SVTO | 43 NS | 0438.0 | 0439.0 | 52.0 | 200.0 | | | QL=1 ST=3 TYP=1 |
| | 234 | POTS | 44 NS | 0550.0E | 1042.0 | 606.00 | 60.0 | | | |
| | 204 | IZMI | 43 NS | 0600.0 | | 360.0 | 40.0 | | | |
| | 260 | ONDR | 44 NS | 0600.0E | | 590.00 | | | | |
| | 127 | TORN | 43 NS | 0723.0 | | 497.0 | | 17.0 | | V=1 |
| | 430 | KRAK | 43 NS | 0813.0 | 1145.6 | 304.50 | 28.0 | 8.0 | | |
| | 33 | UPIC | 43 NS | 0921.5 | | 284.3 | | | | |
| | 245 | SGMR | 44 NS | 0952.0E | 1033.0 | 845.00 | 460.0 | | | QL=1 ST=2 TYP=1 |
| | 410 | SGMR | 44 NS | 1038.0E | 1038.0 | 802.00 | 55.0 | | | QL=1 ST=3 TYP=1 |
| | 245 | PALE | 44 NS | 1630.0E | 2310.0 | 747.00 | 350.0 | | | QL=1 ST=2 TYP=1 |
| | 200 | HIRA | 44 NS | 1925.0E | 0055.0 | 860.00 | 120.0 | 41.0 | | MR |
| | 245 | LEAR | 44 NS | 2319.0E | 0103.0 | 610.00 | 420.0 | | | QL=1 ST=2 TYP=1 |
| | 410 | LEAR | 4 S/F | 0238.0E | 0239.0 | 6.00 | 350.0 | | | QL=1 ST=2 TYP=3 |
| | 245 | LEAR | 8 S | 0239.0E | 0239.0 | 1.00 | 480.0 | | | QL=1 ST=2 TYP=3 |
| | 15400 | LEAR | 8 S | 0239.0E | 0239.0 | 1.00 | 250.0 | | | QL=1 ST=2 TYP=3 |
| | 610 | LEAR | 4 S/F | 0239.0E | 0239.0 | 3.00 | 81.0 | | | QL=1 ST=2 TYP=3 |
| | 610 | PALE | 8 S | 0239.0E | 0239.0 | 1.00 | 99.0 | | | QL=1 ST=2 TYP=3 |
| | 8800 | PALE | 8 S | 0239.0E | 0239.0 | 1.00 | 190.0 | | | QL=1 ST=2 TYP=3 |
| | 1415 | PALE | 8 S | 0239.0E | 0239.0 | 1.00 | 120.0 | | | QL=1 ST=2 TYP=3 |
| | 2695 | PALE | 8 S | 0239.0E | 0239.0 | 1.00 | 220.0 | | | QL=1 ST=2 TYP=3 |
| | 245 | PALE | 49 GB | 0239.0E | 0239.0 | 1.00 | 610.0 | | | QL=1 ST=2 TYP=6 |
| | 410 | PALE | 8 S | 0239.0E | 0239.0 | 1.00 | 400.0 | | | QL=1 ST=2 TYP=3 |
| | 500 | HIRA | 42 SER | 0239.0 | 0239.0 | 42.5 | 205.0 | | | WR |
| | 15400 | PALE | 4 S/F | 0239.0E | 0239.0 | 1281.00 | 200.0 | | | QL=1 ST=1 TYP=3 |
| | 15400 | LEAR | 4 S/F | 0246.0E | 0248.0 | 3.00 | 220.0 | | | QL=1 ST=2 TYP=3 |
| | 9100 | GORK | 23 GRF | 0253.0E | 0732.8 | 547.00 | 58.0 | | | |
| | 410 | LEAR | 4 S/F | 0254.0E | 0255.0 | 3.00 | 48.0 | | | QL=1 ST=2 TYP=3 |
| | 245 | LEAR | 4 S/F | 0254.0E | 0255.0 | 6.00 | 360.0 | | | QL=1 ST=2 TYP=3 |
| | 1415 | PALE | 49 GB | 0254.0E | 0256.0 | 2.00 | 680.0 | | | QL=1 ST=2 TYP=6 |
| | 245 | PALE | 49 GB | 0254.0E | 0255.0 | 6.00 | 660.0 | | | QL=1 ST=2 TYP=6 |
| | 200 | HIRA | 8 S | 0254.0 | 0254.8 | 0.8 | 1520.0 | | | 0 |
| | 15400 | LEAR | 4 S/F | 0255.0E | 0256.0 | 3.00 | 51.0 | | | QL=1 ST=2 TYP=3 |
| | 410 | PALE | 8 S | 0255.0E | 0255.0 | 1.00 | 81.0 | | | QL=1 ST=2 TYP=3 |
| | 650 | GORK | 23 GRF | 0300.0E | 0404.0 | 420.00 | 11.0 | | | |
| 2950 | GORK | 21 GRF | 0301.2E | 0302.0 | 220.80 | 47.0 | | | | |
| 15400 | LEAR | 4 S/F | 0302.0E | 0305.0 | 5.00 | 54.0 | | | QL=1 ST=2 TYP=3 | |
| 410 | LEAR | 8 S | 0304.0E | 0305.0 | 2.00 | 130.0 | | | QL=1 ST=2 TYP=3 | |
| 610 | LEAR | 8 S | 0304.0E | 0305.0 | 1.00 | 26.0 | | | QL=1 ST=2 TYP=3 | |
| 9100 | GORK | 2 S/F | 0304.1 | 0305.6 | 4.5 | 38.0 | | | | |
| 15400 | LEAR | 8 S | 0316.0E | 0317.0 | 2.00 | 77.0 | | | QL=1 ST=2 TYP=3 | |
| 9100 | GORK | 4 S/F | 0316.5 | 0317.7 | 4.5 | 57.0 | | | | |
| 410 | LEAR | 8 S | 0317.0E | 0317.0 | U | 240.0 | | | QL=1 ST=2 TYP=3 | |
| 245 | LEAR | 8 S | 0317.0E | 0317.0 | 1.00 | 100.0 | | | QL=1 ST=2 TYP=3 | |
| 410 | PALE | 8 S | 0317.0E | 0317.0 | U | 280.0 | | | QL=1 ST=2 TYP=3 | |
| 8800 | PALE | 8 S | 0317.0E | 0317.0 | 1.00 | 80.0 | | | QL=1 ST=2 TYP=3 | |
| 15400 | PALE | 8 S | 0317.0E | 0317.0 | 1.00 | 61.0 | | | QL=1 ST=2 TYP=3 | |
| 245 | PALE | 8 S | 0317.0E | 0317.0 | 1.00 | 190.0 | | | QL=1 ST=2 TYP=3 | |
| 15000 | KISV | 2 S/F | 0356.9 | 0357.1 | 1.6 | 10.0 | | | | |
| 245 | PALE | 8 S | 0410.0E | 0410.0 | U | 420.0 | | | QL=1 ST=2 TYP=3 | |
| 245 | SVTO | 8 S | 0410.0E | 0410.0 | U | 340.0 | | | QL=1 ST=2 TYP=3 | |
| 9300 | KISV | 45 C | 0417.0 | 0418.0 | | 20.0 | | | | |
| 9300 | KISV | 45 C | 0417.0 | 0418.0 | 7.4 | 23.0 | | | | |

80
Jun 89

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

JUNE 1989

| Day | Freq | Sta | Type | Start (UT) | Time of Maximum (UT) | Duration (Min) | Flux Density | | Int | Remarks |
|-------|-------|--------|--------|------------|----------------------|----------------|-----------------------------------|-------|-----|-----------------|
| | | | | | | | Peak (10 -22 W/m ² Hz) | Mean | | |
| 14 | 5900 | KISV | 1 S | 0421.2 | 0421.6 | 0.7 | 5.0 | | | |
| | 245 | SVTO | 8 S | 0434.0E | 0434.0 | 1.00 | 110.0 | | | QL=1 ST=2 TYP=3 |
| | 9300 | KISV | 45 C | 0451.3 | 0454.2 | | 10.0 | | | |
| | 9300 | KISV | 45 C | 0451.3 | 0451.9 | 5.4 | 10.0 | | | |
| | 9300 | KISV | 2 S/F | 0500.8 | 0501.6 | 3.5 | 17.0 | | | |
| | 9100 | GORK | 1 S | 0501.0 | 0501.6 | 2.2 | 12.0 | | | |
| | 15000 | KISV | 2 S/F | 0501.0 | 0501.6 | 2.2 | 12.0 | | | |
| | 5900 | KISV | 2 S/F | 0501.1 | 0501.6 | 1.9 | 9.0 | | | |
| | 9300 | KISV | 23 GRF | 0521.9 | 0529.3 | 15.0 | 13.0 | | | |
| | 9300 | KISV | 2 S/F | 0524.5 | 0524.8 | 1.1 | 10.0 | | | |
| | 5900 | KISV | 2 S/F | 0524.6 | 0524.9 | 1.2 | 4.0 | | | |
| | 5900 | KISV | 2 S/F | 0528.8 | 0529.4 | 1.4 | 6.0 | | | |
| | 2840 | PEKG | 1 S | 0545.0 | 0550.4 | 10.0 | 17.7 | | | |
| | 9300 | KISV | 23 GRF | 0547.4 | 0550.8 | 17.6 | 13.0 | | | |
| | 5900 | KISV | 2 S/F | 0547.9 | 0549.6 | 6.5 | 9.0 | | | |
| | 2950 | GORK | 3 S | 0549.1 | 0550.1 | 2.9 | 19.0 | | | |
| | 950 | GORK | 2 S/F | 0549.3 | 0550.6 | 2.8 | 1.0 | | | |
| | 9300 | KISV | 2 S/F | 0558.5 | 0558.7 | 4.5 | 8.0 | | | |
| | 536 | ONDR | 42 SER | 0600.0 | 0613.3 | 56.0 | 53.0 | | | |
| | 8800 | SVTO | 8 S | 0606.0E | 0607.0 | 2.00 | 150.0 | | | QL=1 ST=2 TYP=3 |
| | 4995 | SVTO | 8 S | 0606.0E | 0607.0 | 2.00 | 140.0 | | | QL=1 ST=2 TYP=3 |
| | 2840 | PEKG | 5 S | 0606.0 | 0607.6 | 17.0 | 193.6 | | | |
| | 3200 | BERN | 4 S/F | 0606.4 | 0608.0 | 2.0 | 87.0 | | | |
| | 5200 | BERN | 4 S/F | 0606.4 | 0607.2 | 2.0 | 95.0 | | | |
| | 19600 | BERN | 4 S/F | 0606.4 | 0607.2 | 2.0 | 72.0 | | | |
| | 8400 | BERN | 4 S/F | 0606.4 | 0607.2 | 2.0 | 145.0 | | | |
| | 11800 | BERN | 4 S/F | 0606.4 | 0607.2 | 2.0 | 159.0 | | | |
| | 650 | GORK | 46 C | 0606.5 | 0607.4 | | 35.0 | | | |
| | 650 | GORK | 46 C | 0606.5 | 0606.5 | 1.8 | 32.0 | | | |
| | 9100 | GORK | 4 S/F | 0606.6 | 0607.2 | 4.8 | 173.0 | | | |
| | 9300 | KISV | 4 S/F | 0606.6 | 0607.5 | 2.1 | 180.0 | | | |
| | 9300 | KISV | 29 PBI | 0606.6 | 0608.8 | 14.5 | 23.0 | | | |
| | 2950 | GORK | 4 S/F | 0606.7 | 0608.0 | 4.9 | 173.0 | | | |
| | 5900 | KISV | 29 PBI | 0606.7 | 0609.4 | 10.0 | 26.0 | | | |
| | 5900 | KISV | 4 S/F | 0606.7 | 0607.5 | 2.7 | 178.0 | | | |
| | 950 | GORK | 4 S/F | 0606.7 | 0607.6 | 14.3 | 61.0 | | | |
| | 600 | HUMN | 4 S/F | 0606.8 | 0607.0 | 1.5 | 20.0 | 4.0 | | |
| | 15000 | KISV | 4 S/F | 0606.8 | 0607.2 | 7.9 | 94.0 | | | |
| | 3013 | IZMI | 40 F | 0606.8 | 0607.8 | 13.0 | 39.0 | 20.0 | | |
| | 15400 | SVTO | 8 S | 0607.0E | 0607.0 | 1.00 | 89.0 | | | QL=1 ST=2 TYP=3 |
| | 2695 | SVTO | 4 S/F | 0607.0E | 0608.0 | 3.00 | 200.0 | | | QL=1 ST=2 TYP=3 |
| | 1415 | SVTO | 4 S/F | 0607.0E | 0607.0 | 4.00 | 130.0 | | | QL=1 ST=2 TYP=3 |
| | 650 | GORK | 4 S/F | 0612.4 | 0613.1 | 1.3 | 26.0 | | | |
| | 5900 | KISV | 2 S/F | 0615.4 | 0616.0 | 2.5 | 15.0 | | | |
| | 9300 | KISV | 2 S/F | 0615.4 | 0616.0 | 2.4 | 10.0 | | | |
| | 2950 | GORK | 1 S | 0615.4 | 0615.8 | 1.0 | 7.0 | | | |
| | 2950 | GORK | 1 S | 0616.5 | 0616.7 | 1.0 | 11.0 | | | |
| | 600 | HUMN | 1 S | 0644.0 | 0644.3 | 0.7 | 10.0 | 3.0 | | |
| | 234 | POTS | 8 S | 0653.8 | 0654.1 | 0.7 | 660.0 | 200.0 | | |
| | 2950 | GORK | 1 S | 0654.0 | 0657.0 | 12.7 | 4.0 | | | |
| 234 | POTS | 41 F | 0715.8 | 0717.0 | 3.2 | 300.0 | | | | |
| 15000 | KISV | 1 S | 0717.2 | 0717.5 | 0.8 | 21.0 | | | | |
| 9300 | KISV | 23 GRF | 0717.5 | 0732.9 | 40.4 | 36.0 | | | | |
| 9500 | POTS | 40 F | 0720.0 | 0737.3 | 35.0 | 33.0 | | | | |
| 9300 | KISV | 2 S/F | 0721.7 | 0722.8 | 2.5 | 13.0 | | | | |
| 5900 | KISV | 46 C | 0721.8 | 0733.0 | | 27.0 | | | | |
| 5900 | KISV | 46 C | 0721.8 | 0731.2 | 21.0 | 29.0 | | | | |
| 5900 | KISV | 46 C | 0721.8 | 0736.9 | | 22.0 | | | | |
| 3000 | POTS | 40 F | 0727.0 | 0731.0 | 28.0 | 12.0 | | | | |
| 950 | GORK | 22 GRF | 0727.7 | 0728.4 | 29.6 | 7.0 | | | | |
| 650 | GORK | 41 F | 0730.4 | 0733.0 | | 16.0 | | | | |
| 650 | GORK | 41 F | 0730.4 | 0736.7 | | 9.0 | | | | |
| 650 | GORK | 41 F | 0730.4 | 0730.8 | 6.7 | 25.0 | | | | |
| 2950 | GORK | 4 S/F | 0730.6 | 0731.1 | 6.2 | 7.0 | | | | |
| 9300 | KISV | 2 S/F | 0736.0 | 0737.0 | 4.7 | 21.0 | | | | |
| 9100 | GORK | 2 S/F | 0736.1 | 0737.2 | 3.1 | 18.0 | | | | |
| 15000 | KISV | 2 S/F | 0737.0 | 0737.2 | 1.2 | 7.0 | | | | |
| 9300 | KISV | 2 S/F | 0748.3 | 0749.7 | 3.6 | 10.0 | | | | |
| 5900 | KISV | 2 S/F | 0748.6 | 0749.6 | 2.9 | 11.0 | | | | |

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

81
Jun 89

JUNE 1989

| Day | Freq | Sta | Type | Start (UT) | Time of Maximum (UT) | Duration (Min) | Flux Density Peak (10 ⁻²² W/m ² Hz) | Mean | Int | Remarks |
|------|-------|--------|---------|------------|----------------------|----------------|---|------|-----------------|-----------------|
| 14 | 950 | GORK | 20 GRF | 0758.0 | 0809.0 | 14.0 | 2.0 | | | |
| | 600 | HUMN | 3 S | 0809.0 | 0809.5 | 1.0 | 12.0 | 5.0 | | |
| | 9500 | POTS | 40 F | 0815.0 | 0820.0 | 60.0 | 17.0 | | | |
| | 9300 | KISV | 45 C | 0816.8 | 0825.3 | 15.3 | 21.0 | | | |
| | 9300 | KISV | 45 C | 0816.8 | 0819.9 | | 17.0 | | | |
| | 15000 | KISV | 46 C | 0818.3 | 0831.2 | | 21.0 | | | |
| | 15000 | KISV | 46 C | 0818.3 | 0825.8 | | 23.0 | | | |
| | 15000 | KISV | 46 C | 0818.3 | 0819.9 | 16.8 | 26.0 | | | |
| | 5900 | KISV | 2 S/F | 0819.1 | 0819.7 | 4.0 | 7.0 | | | |
| | 5900 | KISV | 2 S/F | 0825.0 | 0825.7 | 3.8 | 12.0 | | | |
| | 950 | GORK | 21 GRF | 0828.8 | 0842.0 | 19.5 | 2.0 | | | |
| | 1470 | POTS | 4 S/F | 0830.0 | 0838.8 | 14.0 | 37.0 | | | |
| | 600 | HUMN | 4 S/F | 0834.0 | 0836.0 | 8.5 | 240.0 | 71.0 | | |
| | 410 | LEAR | 4 S/F | 0834.0E | 0838.0 | 6.0D | 45.0 | | | QL=1 ST=2 TYP=3 |
| | 245 | LEAR | 4 S/F | 0834.0E | 0836.0 | 6.0D | 48.0 | | | QL=1 ST=2 TYP=3 |
| | 650 | GORK | 46 C | 0834.1 | 0836.4 | 5.6 | 1014.0 | | | |
| | 536 | ONDR | 48 C | 0834.2 | 0835.6 | 6.5 | 228.0 | | | |
| | 650 | GORK | 46 C | 0834.4 | 0838.2 | | 1122.0 | | | |
| | 500 | HIRA | 46 C | 0834.5 | 0838.0 | 6.0 | 292.0 | | | WL |
| | 5200 | BERN | 4 S/F | 0835.0 | 0839.0 | 8.0 | 14.0 | | | |
| | 3200 | BERN | 4 S/F | 0835.0 | 0839.0 | 8.0 | 27.0 | | | |
| | 610 | LEAR | 49 GB | 0835.0E | 0836.0 | 5.0D | 880.0 | | | |
| | 9300 | KISV | 23 GRF | 0835.0 | 0838.7 | 16.2 | 23.0 | | | QL=1 ST=2 TYP=6 |
| | 2950 | GORK | 4 S/F | 0835.0 | 0838.8 | 8.2 | 45.0 | | | |
| | 950 | GORK | 4 S/F | 0835.4 | 0838.6 | 6.1 | 21.0 | | | |
| | 5900 | KISV | 2 S/F | 0835.4 | 0838.7 | 7.2 | 21.0 | | | |
| | 808 | ONDR | 7 C | 0835.5 | 0836.0 | 11.0 | 55.0 | | | |
| | 3013 | IZMI | 5 S | 0835.5 | 0838.8 | 7.0 | 13.0 | 7.0 | | |
| | 9300 | KISV | 2 S/F | 0844.4 | 0844.7 | 1.4 | 14.0 | | | |
| | 5900 | KISV | 2 S/F | 0852.1 | 0852.7 | 2.1 | 6.0 | | | |
| | 9300 | KISV | 2 S/F | 0856.7 | 0859.8 | 8.1 | 14.0 | | | |
| | 610 | LEAR | 4 S/F | 0913.0E | 0914.0 | 3.0D | 61.0 | | | QL=1 ST=2 TYP=3 |
| | 600 | HUMN | 4 S/F | 0914.0 | 0914.5 | 2.0 | 30.0 | 10.0 | | |
| | 650 | GORK | 46 C | 0914.0 | 0915.7 | | 55.0 | | | |
| | 650 | GORK | 46 C | 0914.0 | 0914.7 | 3.1 | 69.0 | | | |
| | 950 | GORK | 2 S/F | 0914.0 | 0914.7 | 1.9 | 5.0 | | | |
| | 15000 | KISV | 2 S/F | 0931.5 | 0931.7 | 0.6 | 10.0 | | | |
| | 9300 | KISV | 45 C | 0931.5 | 0935.7 | 6.0 | 12.0 | | | |
| | 9300 | KISV | 45 C | 0931.5 | 0932.8 | | 10.0 | | | |
| | 2950 | GORK | 1 S | 0932.5 | 0933.0 | 1.1 | 7.0 | | | |
| | 5900 | KISV | 2 S/F | 0932.7 | 0932.9 | 0.8 | 12.0 | | | |
| | 245 | SGMR | 49 GB | 1037.0E | 1038.0 | 1.0D | 830.0 | | | QL=1 ST=2 TYP=6 |
| | 9300 | KISV | 2 S/F | 1039.5 | 1040.9 | 9.1 | 27.0 | | | |
| | 9100 | GORK | 2 S/F | 1039.8 | 1040.5 | 3.0 | 22.0 | | | |
| | 5900 | KISV | 2 S/F | 1039.8 | 1040.6 | 3.5 | 36.0 | | | |
| | 2950 | GORK | 2 S/F | 1039.9 | 1040.6 | 5.3 | 11.0 | | | |
| | 245 | SGMR | 49 GB | 1040.0E | 1041.0 | 3.0D | 2000.0 | | | QL=1 ST=2 TYP=6 |
| 600 | HUMN | 1 S | 1040.0 | 1040.8 | 1.5 | 14.0 | 5.0 | | | |
| 810 | KRAK | 2 S/F | 1040.2 | 1040.5 | 1.2 | 46.0 | 11.0 | | | |
| 536 | ONDR | 7 C | 1040.3 | 1041.0 | 4.0 | 22.0 | | | | |
| 234 | POTS | 42 SER | 1041.2 | 1041.4 | 2.7 | 6100.0 | | | | |
| 30 | POTS | 4 S/F | 1042.6 | 1044.5 | 2.0 | 12000.0 | | | | |
| 9500 | POTS | 21 GRF | 1107.0 | 1308.5 | 143.0 | 24.0 | | | | |
| 2950 | GORK | 1 S | 1136.2 | 1138.7 | 3.5 | 5.0 | | | | |
| 9300 | KISV | 4 S/F | 1137.2 | 1138.8 | 8.0 | 48.0 | | | | |
| 9300 | KISV | 23 GRF | 1137.2 | 1213.8 | 60.6 | 24.0 | | | | |
| 5900 | KISV | 45 C | 1137.8 | 1139.3 | | 20.0 | | | | |
| 9100 | GORK | 2 S/F | 1137.8 | 1138.6 | 2.6 | 37.0 | | | | |
| 5900 | KISV | 45 C | 1137.8 | 1138.7 | 6.3 | 30.0 | | | | |
| 3000 | POTS | 3 S | 1138.0 | 1138.6 | 2.0 | 8.0 | | | | |
| 9500 | POTS | 3 S | 1138.0 | 1138.8 | 2.0 | 30.0 | | | | |
| 536 | ONDR | 42 SER | 1207.3 | 1217.7 | 83.0 | 130.0 | | | | |
| 4995 | SGMR | 8 S | 1217.0E | 1218.0 | 1.0D | 50.0 | | | QL=1 ST=2 TYP=3 | |
| 4995 | SVTO | 8 S | 1217.0E | 1218.0 | 1.0D | 62.0 | | | QL=1 ST=2 TYP=3 | |
| 9500 | POTS | 3 S | 1217.2 | 1218.2 | 2.3 | 52.0 | | | | |
| 9300 | KISV | 4 S/F | 1217.4 | 1218.2 | 9.1 | 65.0 | | | | |
| 3000 | POTS | 3 S | 1217.5 | 1218.2 | 2.5 | 20.0 | | | | |
| 3100 | CRIM | 1 S | 1217.5 | 1218.3 | 2.0 | 14.6 | 5.0 | | | |
| 808 | ONDR | 42 SER | 1217.5 | 1217.7 | 4.7 | 34.0 | | | | |

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

JUNE 1989

| Day | Freq | Sta | Type | Start (UT) | Time of Maximum (UT) | Duration (Min) | Flux Density Peak (10 -22 W/m 2 Hz) | Flux Density Mean | Int | Remarks |
|-------|-------|--------|---------|------------|----------------------|----------------|-------------------------------------|-------------------|-----------------|-----------------|
| 14 | 600 | HUMN | 4 S/F | 1217.8 | 1218.0 | 0.5 | 54.0 | 20.0 | | |
| | 15000 | KISV | 45 C | 1249.3 | 1250.8 | 10.7 | 49.0 | | | |
| | 15000 | KISV | 45 C | 1249.3 | 1251.9 | | 31.0 | | | |
| | 2800 | OTTA | 22 GRF | 1250.0 | 1309.0 | 35.0 | 8.5 | 4.0 | | |
| | 8800 | SGMR | 8 S | 1250.0E | 1250.0 | 2.00 | 59.0 | | | QL=1 ST=2 TYP=5 |
| | 8800 | SVTO | 8 S | 1250.0E | 1250.0 | 1.00 | 59.0 | | | QL=1 ST=2 TYP=3 |
| | 9500 | POTS | 3 S | 1250.0 | 1250.7 | 3.0 | 37.0 | | | |
| | 9300 | KISV | 46 C | 1250.1 | 1257.1 | | 15.0 | | | |
| | 5900 | KISV | 45 C | 1250.1 | 1252.2 | | 15.0 | | | |
| | 9300 | KISV | 23 GRF | 1250.1 | 1308.2 | 33.1 | 26.0 | | | |
| | 5900 | KISV | 45 C | 1250.1 | 1250.8 | 5.3 | 24.0 | | | |
| | 9300 | KISV | 46 C | 1250.1 | 1250.8 | 9.9 | 64.0 | | | |
| | 9300 | KISV | 46 C | 1250.1 | 1251.9 | | 27.0 | | | |
| | 600 | HUMN | 2 S/F | 1250.5 | 1252.0 | 2.5 | 22.0 | 4.0 | | |
| | 808 | ONDR | 42 SER | 1310.0 | 1312.0 | 9.6 | 24.0 | | | |
| | 234 | POTS | 8 S | 1316.2 | 1316.7 | 0.8 | 250.0 | 80.0 | | |
| | 2800 | OTTA | 28 PRE | 1331.0 | 1352.5 | 21.5 | 19.5 | 9.0 | | |
| | 245 | SVTO | 8 S | 1331.0E | 1331.0 | 1.00 | 170.0 | | | QL=1 ST=2 TYP=3 |
| | 9500 | POTS | 45 C | 1335.0 | 1352.6 | 65.0 | 400.0 | | | |
| | 3000 | POTS | 45 C | 1340.0 | 1352.7 | 45.0 | 305.0 | | | |
| | 9300 | KISV | 46 C | 1341.6 | 1347.6 | | 53.0 | | | |
| | 9300 | KISV | 46 C | 1341.6 | 1343.8 | | 63.0 | | | |
| | 9300 | KISV | 46 C | 1341.6 | 1352.8 | 44.4 | 108.00 | | | |
| | 1470 | POTS | 45 C | 1342.0 | 1353.3 | 58.0 | 174.0 | | | |
| | 15000 | KISV | 45 C | 1342.7 | 1343.1 | | 15.0 | | | |
| | 15000 | KISV | 45 C | 1342.7 | 1346.5 | 9.2 | 27.0 | | | |
| | 5900 | KISV | 4 S/F | 1342.7 | 1343.9 | 3.0 | 40.0 | | | |
| | 2800 | OTTA | 3 S | 1343.0 | 1344.0 | 2.0 | 13.7 | 4.0 | | |
| | 8800 | SVTO | 8 S | 1343.0E | 1343.0 | 1.00 | 45.0 | | | QL=1 ST=2 TYP=3 |
| | 2695 | SVTO | 8 S | 1343.0E | 1343.0 | U | 40.0 | | | QL=1 ST=2 TYP=3 |
| | 4995 | SVTO | 8 S | 1343.0E | 1343.0 | 1.00 | 56.0 | | | QL=1 ST=2 TYP=3 |
| | 600 | HUMN | 2 S/F | 1343.0 | 1343.5 | 1.5 | 10.0 | 4.0 | | |
| | 2800 | OTTA | 3 S | 1346.0 | 1347.0 | 3.0 | 21.5 | 6.0 | | |
| | 8800 | SVTO | 4 S/F | 1346.0E | 1347.0 | 3.00 | 56.0 | | | QL=1 ST=2 TYP=3 |
| | 2695 | SVTO | 8 S | 1346.0E | 1346.0 | 1.00 | 56.0 | | | QL=1 ST=2 TYP=3 |
| | 30 | POTS | 4 S/F | 1349.5 | 1353.5U | 16.0 | 20000.00 | | | |
| | 15400 | SGMR | 8 S | 1352.0E | 1352.0 | 1.00 | 230.0 | | | QL=1 ST=2 TYP=3 |
| | 2695 | SGMR | 4 S/F | 1352.0E | 1352.0 | 6.00 | 320.0 | | | QL=1 ST=2 TYP=3 |
| | 8800 | SGMR | 8 S | 1352.0E | 1352.0 | 1.00 | 320.0 | | | QL=1 ST=2 TYP=3 |
| | 610 | SGMR | 4 S/F | 1352.0E | 1352.0 | 5.00 | 66.0 | | | QL=1 ST=2 TYP=3 |
| | 1415 | SGMR | 4 S/F | 1352.0E | 1353.0 | 8.00 | 180.0 | | | QL=1 ST=2 TYP=3 |
| | 245 | SVTO | 49 GB | 1352.0E | 1352.0 | 7.00 | 1800.0 | | | QL=1 ST=2 TYP=6 |
| | 410 | SVTO | 4 S/F | 1352.0E | 1352.0 | 608.00 | 190.0 | | | QL=1 ST=1 TYP=3 |
| | 234 | POTS | 4 S/F | 1352.0 | 1352.8 | 8.00 | 2000.0 | | | |
| | 3200 | BERN | 47 GB | 1352.4 | 1352.4 | 0.3 | 266.0 | | | |
| | 19600 | BERN | 47 GB | 1352.4 | 1352.4 | 0.3 | 446.0 | | | |
| | 8400 | BERN | 47 GB | 1352.4 | 1352.4 | 0.3 | 665.0 | | | |
| | 11800 | BERN | 47 GB | 1352.4 | 1352.4 | 0.3 | 484.0 | | | |
| | 2800 | OTTA | 4 S/F | 1352.5 | 1352.9 | 10.5 | 433.0 | 87.0 | | |
| | 808 | ONDR | 3 S | 1352.6 | 1353.0 | 18.0 | 76.0 | | | |
| | 5900 | KISV | 3 S | 1352.6 | 1352.8 | 1.4 | 184.0 | | | |
| | 15000 | KISV | 8 S | 1352.6 | 1352.9 | 0.9 | 187.0 | | | |
| | 600 | HUMN | 3 S | 1353.0 | 1353.3 | 26.0 | 32.0 | 14.0 | | |
| | 2800 | OTTA | 29 PBI | 1403.0 | 1403.0 | 95.0 | 35.8 | 18.0 | | |
| 245 | SGMR | 49 GB | 1506.0E | 1507.0 | 1.00 | 630.0 | | | QL=1 ST=2 TYP=7 | |
| 245 | SVTO | 8 S | 1506.0E | 1507.0 | 2.00 | 490.0 | | | QL=1 ST=2 TYP=3 | |
| 2800 | OTTA | 22 GRF | 1542.0 | 1552.0 | 40.0 | 11.7 | 6.0 | | | |
| 245 | SGMR | 8 S | 1545.0E | 1545.0 | 1.00 | 150.0 | | | QL=1 ST=2 TYP=3 | |
| 410 | SGMR | 49 GB | 1549.0E | 1549.0 | U | 720.0 | | | QL=1 ST=2 TYP=6 | |
| 410 | SVTO | 4 S/F | 1549.0E | 1549.0 | 491.00 | 350.0 | | | QL=1 ST=1 TYP=3 | |
| 4995 | SGMR | 4 S/F | 1624.0E | 1629.0 | 12.00 | 61.0 | | | QL=1 ST=3 TYP=3 | |
| 2800 | OTTA | 4 S/F | 1625.0 | 1630.0 | 7.0 | 35.8 | 11.0 | | | |
| 5200 | BERN | 46 C | 1625.0 | 1629.0 | 7.0 | 26.0 | | | | |
| 3200 | BERN | 46 C | 1625.0 | 1629.0 | 7.0 | 24.0 | | | | |
| 600 | HUMN | 2 S/F | 1625.0 | 1629.0 | 6.0 | 8.0 | 3.0 | | | |
| 8800 | SGMR | 4 S/F | 1625.0E | 1625.0 | 4.00 | 93.0 | | | QL=1 ST=3 TYP=3 | |
| 4995 | SGMR | 8 S | 1625.0E | 1629.0 | 4.00 | 62.0 | | | QL=1 ST=3 TYP=3 | |
| 15400 | SVTO | 8 S | 1625.0E | 1625.0 | 2.00 | 100.0 | | | QL=1 ST=2 TYP=3 | |
| 245 | SVTO | 8 S | 1625.0E | 1625.0 | U | 300.0 | | | QL=1 ST=2 TYP=3 | |

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

83
Jun 89

JUNE 1989

| Day | Freq | Sta | Type | Start (UT) | Time of Maximum (UT) | Duration (Min) | Flux Density | | Int | Remarks |
|------|-------|-------|---------|------------|----------------------|----------------|------------------------|-------|-----------------|-----------------|
| | | | | | | | Peak (10 -22 W/m 2 Hz) | Mean | | |
| 14 | 3500 | BERN | 46 C | 1625.0 | 1626.4 | 7.0 | 66.0 | | | |
| | 19600 | BERN | 46 C | 1625.0 | 1626.4 | 7.0 | 110.0 | | | |
| | 8400 | BERN | 46 C | 1625.0 | 1626.4 | 7.0 | 61.0 | | | |
| | 11800 | BERN | 46 C | 1625.0 | 1626.4 | 7.0 | 105.0 | | | |
| | 410 | SVTO | 8 S | 1628.0E | 1628.0 | 2.0D | 69.0 | | | QL=1 ST=2 TYP=3 |
| | 410 | PALE | 8 S | 1642.0E | 1642.0 | 1.0D | 98.0 | | | QL=1 ST=2 TYP=3 |
| | 245 | PALE | 4 S/F | 1642.0E | 1644.0 | 3.0D | 360.0 | | | QL=1 ST=2 TYP=5 |
| | 245 | PALE | 49 GB | 1654.0E | 1654.0 | 1.0D | 1200.0 | | | QL=1 ST=2 TYP=6 |
| | 245 | SVTO | 49 GB | 1654.0E | 1654.0 | 1.0D | 830.0 | | | QL=1 ST=2 TYP=6 |
| | 2800 | OTTA | 4 S/F | 1817.0 | 1818.5 | 4.0 | 69.6 | 21.0 | | |
| | 2695 | SGMR | 8 S | 1818.0E | 1818.0 | 1.0D | 56.0 | | | QL=1 ST=2 TYP=3 |
| | 8800 | SGMR | 49 GB | 1818.0E | 1818.0 | 4.0D | 560.0 | | | QL=1 ST=2 TYP=6 |
| | 15400 | SGMR | 49 GB | 1818.0E | 1818.0 | 2.0D | 1700.0 | | | QL=1 ST=2 TYP=6 |
| | 4995 | SGMR | 8 S | 1818.0E | 1818.0 | 2.0D | 210.0 | | | QL=1 ST=2 TYP=3 |
| | 245 | PALE | 49 GB | 1836.0E | 1836.0 | U | 700.0 | | | QL=1 ST=2 TYP=6 |
| | 245 | SGMR | 49 GB | 1836.0E | 1836.0 | 1.0D | 520.0 | | | QL=1 ST=2 TYP=6 |
| | 8800 | PALE | 8 S | 2019.0E | 2019.0 | 1.0D | 60.0 | | | QL=1 ST=2 TYP=3 |
| | 15400 | PALE | 8 S | 2019.0E | 2019.0 | U | 130.0 | | | QL=1 ST=2 TYP=3 |
| | 15400 | SGMR | 8 S | 2019.0E | 2019.0 | 1.0D | 110.0 | | | QL=1 ST=2 TYP=3 |
| | 8800 | SGMR | 8 S | 2019.0E | 2019.0 | 1.0D | 88.0 | | | QL=1 ST=2 TYP=3 |
| | 500 | HIRA | 20 GRF | 2110.0 | 2300.0 | 300.0 | 24.0 | 9.0 | | WR |
| | 15400 | SGMR | 8 S | 2119.0E | 2119.0 | 2.0D | 54.0 | | | QL=1 ST=2 TYP=3 |
| | 245 | PALE | 8 S | 2257.0E | 2257.0 | 1.0D | 250.0 | | | QL=1 ST=2 TYP=3 |
| 200 | HIRA | 46 C | 2312.1 | 2312.5 | 1.4 | 1830.0 | | | 0 | |
| 100 | HIRA | 46 C | 2312.5 | 2312.5 | 1.5 | 980.0 | | | | |
| 410 | LEAR | 8 S | 2334.0E | 2335.0 | 2.0D | 85.0 | | | QL=1 ST=2 TYP=3 | |
| 410 | PALE | 8 S | 2335.0E | 2335.0 | U | 120.0 | | | QL=1 ST=2 TYP=3 | |
| 15 | 100 | GORK | 44 NS | 0245.0E | | 555.0D | | 5.0 | | |
| | 245 | SVTO | 44 NS | 0458.0E | 0500.0 | 85.0D | 150.0 | | | QL=1 ST=2 TYP=1 |
| | 234 | POTS | 44 NS | 0550.0E | 1052.0 | 548.0D | 90.0 | | | |
| | 204 | IZMI | 43 NS | 0600.0 | | 360.0 | 20.0 | | | |
| | 260 | ONDR | 44 NS | 0600.0E | | 590.0D | | | | |
| | 430 | KRAK | 44 NS | 0700.0E | | 354.0D | | 11.0 | | |
| | 127 | TORN | 43 NS | 0726.0 | 1035.5 | 474.0 | 1900.0 | 25.0 | | V=1 |
| | 33 | UPIC | 43 NS | 0737.2 | | 445.6 | | | | |
| | 245 | SVTO | 43 NS | 0808.0 | 1044.0 | 404.0 | 150.0 | | | QL=1 ST=2 TYP=1 |
| | 245 | SGMR | 44 NS | 0929.0E | 1950.0 | 869.0D | 1800.0 | | | QL=1 ST=2 TYP=1 |
| | 410 | SGMR | 44 NS | 1118.0E | 2026.0 | 760.0D | 980.0 | | | QL=1 ST=2 TYP=1 |
| | 808 | ONDR | 43 NS | 1417.5 | 1420.4 | 20.0 | 96.0 | | | |
| | 245 | PALE | 44 NS | 1631.0E | 0040.0 | 648.0D | 370.0 | | | QL=1 ST=2 TYP=1 |
| | 610 | SGMR | 44 NS | 1914.0E | 1943.0 | 284.0D | 1400.0 | | | QL=1 ST=2 TYP=1 |
| | 610 | LEAR | 44 NS | 2319.0E | 2321.0 | 151.0D | 170.0 | | | QL=1 ST=2 TYP=1 |
| | 410 | LEAR | 43 NS | 2319.0 | 2321.0 | 311.0D | 170.0 | | | QL=1 ST=2 TYP=1 |
| | 245 | LEAR | 44 NS | 2319.0E | 0819.0 | 610.0D | 350.0 | | | QL=1 ST=2 TYP=1 |
| | 200 | HIRA | 44 NS | 2320.0E | | 620.0D | | 129.0 | | |
| | 245 | PALE | 4 S/F | 0039.0E | 0043.0 | 12.0D | 350.0 | | | QL=1 ST=3 TYP=5 |
| | 245 | LEAR | 8 S | 0109.0E | 0109.0 | 2.0D | 170.0 | | | QL=1 ST=2 TYP=3 |
| | 610 | LEAR | 8 S | 0110.0E | 0110.0 | U | 24.0 | | | QL=1 ST=2 TYP=3 |
| | 15400 | LEAR | 8 S | 0111.0E | 0111.0 | U | 120.0 | | | QL=1 ST=2 TYP=3 |
| | 2840 | PEKG | 1 S | 0132.0 | 0133.6 | 3.0 | 15.6 | | | |
| | 9100 | GORK | 23 GRF | 0257.5 | 1133.1 | 542.5 | 43.0 | | | |
| | 950 | GORK | 22 GRF | 0300.0 | 0357.0 | 147.0 | 7.0 | | | |
| | 2950 | GORK | 4 S/F | 0319.7 | 0320.3 | 1.5 | 71.0 | | | |
| | 950 | GORK | 4 S/F | 0320.0 | 0321.0 | 1.6 | 29.0 | | | |
| | 2695 | PALE | 8 S | 0320.0E | 0320.0 | U | 120.0 | | | QL=1 ST=2 TYP=3 |
| | 9100 | GORK | 2 S/F | 0331.4 | 0332.3 | 2.2 | 39.0 | | | |
| | 950 | GORK | 4 S/F | 0345.2 | 0346.7 | 4.5 | 15.0 | | | |
| | 15000 | KISV | 1 S | 0403.2 | 0403.4 | 0.4 | 13.0 | | | |
| | 15000 | KISV | 2 S/F | 0433.9 | 0435.4 | 9.1 | 10.0 | | | |
| | 9300 | KISV | 22 GRF | 0434.0 | 0500.3 | 53.0 | 30.0 | | | |
| 5900 | KISV | 2 S/F | 0434.6 | 0435.5 | 6.6 | 8.0 | | | | |
| 950 | GORK | 4 S/F | 0435.4 | 0435.9 | 3.4 | 24.0 | | | | |
| 100 | GORK | 4 S/F | 0455.8 | 0459.1 | 9.3 | 2307.0 | | | | |
| 5900 | KISV | 45 C | 0539.0 | 0540.3 | | 20.0 | | | | |
| 5900 | KISV | 45 C | 0539.0 | 0542.6 | 7.0 | 54.0 | | | | |
| 9300 | KISV | 45 C | 0539.3 | 0540.3 | | 17.0 | | | | |
| 9300 | KISV | 45 C | 0539.3 | 0542.8 | 16.7 | 35.0 | | | | |
| 5200 | BERN | 4 S/F | 0541.0 | 0543.0 | 3.5 | 32.0 | | | | |

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

JUNE 1989

| Day | Freq Sta | Type | Start (UT) | Time of Maximum (UT) | Duration (Min) | Flux Density | | Int | Remarks |
|------------|------------|---------|------------|----------------------|----------------|--|------|-----------------|-----------------|
| | | | | | | Peak (10 ⁻²² W/m ² Hz) | Mean | | |
| 15 | 3200 BERN | 4 S/F | 0541.0 | 0543.0 | 3.5 | 25.0 | | | |
| | 3100 CRIM | 4 S/F | 0541.0 | 0543.0 | 3.0 | 31.0 | 10.0 | | |
| | 9100 GORK | 2 S/F | 0541.3 | 0542.8 | 3.2 | 22.0 | | | |
| | 2950 GORK | 4 S/F | 0541.3 | 0542.8 | 4.2 | 35.0 | | | |
| | 9300 KISV | 22 GRF | 0614.3 | 0615.2 | 19.5 | 12.0 | | | |
| | 9300 KISV | 23 GRF | 0724.5 | 0755.1 | 48.5 | 26.0 | | | |
| | 650 GORK | 22 GRF | 0724.6 | 0757.1 | 120.0 | 3.0 | | | |
| | 5900 KISV | 23 GRF | 0732.0 | 0740.7 | 60.0 | 38.0 | | | |
| | 9500 POTS | 21 GRF | 0735.0 | 0738.5 | 55.0 | 25.0 | | | |
| | 3100 CRIM | 1 S | 0736.2 | 0737.7 | 1.5 | 9.0 | 3.0 | | |
| | 3100 CRIM | 29 PBI | 0736.2 | 0737.7 | 10.0 | 3.7 | 1.0 | | |
| | 3013 IZMI | 5 S | 0736.3 | 0737.3 | 2.5 | 14.0 | 7.0 | | |
| | 2950 GORK | 1 S | 0736.4 | 0737.2 | 2.4 | 11.0 | | | |
| | 5900 KISV | 2 S/F | 0736.4 | 0737.4 | 3.0 | 35.0 | | | |
| | 9300 KISV | 45 C | 0736.5 | 0738.3 | | 21.0 | | | |
| | 9300 KISV | 45 C | 0736.5 | 0737.3 | 5.2 | 26.0 | | | |
| | 9100 GORK | 2 S/F | 0736.8 | 0737.2 | 3.4 | 16.0 | | | |
| | 15000 KISV | 1 S | 0740.0 | 0740.1 | 0.3 | 11.0 | | | |
| | 536 ONDR | 42 SER | 0747.5 | 0747.7 | 1.5 | 14.0 | | | |
| | 9100 GORK | 2 S/F | 0751.7 | 0752.3 | 1.9 | 14.0 | | | |
| | 9100 GORK | 2 S/F | 0803.2 | 0804.6 | 4.5 | 18.0 | | | |
| | 5900 KISV | 45 C | 0803.5 | 0805.5 | | 26.0 | | | |
| | 5900 KISV | 45 C | 0803.5 | 0804.8 | 4.0 | 26.0 | | | |
| | 9300 KISV | 2 S/F | 0803.6 | 0804.8 | 4.4 | 26.0 | | | |
| | 9100 GORK | 1 S | 0837.7 | 0838.0 | 2.1 | 16.0 | | | |
| | 9300 KISV | 2 S/F | 0837.7 | 0838.0 | 9.0 | 17.0 | | | |
| | 5900 KISV | 2 S/F | 0837.7 | 0837.9 | 1.0 | 16.0 | | | |
| | 15000 KISV | 1 S | 0837.9 | 0838.0 | 0.5 | 31.0 | | | |
| | 9300 KISV | 2 S/F | 0900.8 | 0901.3 | 1.6 | 6.0 | | | |
| | 9500 POTS | 4 S/F | 0911.3 | 0914.7 | 20.0 | 33.0 | | | |
| | 15000 KISV | 2 S/F | 0911.5 | 0914.7 | 8.5 | 46.0 | | | |
| | 9100 GORK | 2 S/F | 0912.7 | 0913.6 | 3.5 | 17.0 | | | |
| | 9300 KISV | 2 S/F | 0913.0 | 0913.7 | 5.9 | 19.0 | | | |
| | 650 GORK | 21 GRF | 0929.2 | 0932.1 | 45.9 | 3.0 | | | |
| | 9100 GORK | 3 S | 0941.7 | 0942.8 | 2.3 | 115.0 | | | |
| | 15000 KISV | 4 S/F | 0941.8 | 0942.9 | 4.6 | 65.0 | | | |
| | 5900 KISV | 3 S | 0941.8 | 0942.9 | 6.5 | 116.0 | | | |
| | 9300 KISV | 4 S/F | 0941.8 | 0942.9 | 65.0 | 125.0 | | | |
| | 2950 GORK | 21 GRF | 0941.8 | 1127.9 | 138.20 | 52.0 | | | |
| | 1415 SVTO | 8 S | 0942.0E | 0942.0 | 2.00 | 50.0 | | | QL=1 ST=2 TYP=3 |
| | 8800 SVTO | 8 S | 0942.0E | 0942.0 | 1.00 | 79.0 | | | QL=1 ST=2 TYP=3 |
| | 2695 SVTO | 8 S | 0942.0E | 0942.0 | 1.00 | 92.0 | | | QL=1 ST=2 TYP=3 |
| | 15400 SVTO | 8 S | 0942.0E | 0942.0 | 1.00 | 55.0 | | | QL=1 ST=2 TYP=3 |
| | 4995 SVTO | 8 S | 0942.0E | 0942.0 | 1.00 | 84.0 | | | QL=1 ST=2 TYP=3 |
| | 950 GORK | 23 GRF | 0942.0 | 1130.0 | 138.0 | 8.0 | | | |
| | 950 GORK | 4 S/F | 0942.3 | 0942.8 | 2.7 | 20.0 | | | |
| | 650 GORK | 4 S/F | 0942.4 | 0942.4 | 0.3 | 18.0 | | | |
| | 2950 GORK | 3 S | 0942.4 | 0942.8 | 1.8 | 90.0 | | | |
| | 9500 POTS | 3 S | 0942.5 | 0943.0 | 2.0 | 86.0 | | | |
| | 1470 POTS | 3 S | 0942.5 | 0943.0 | 5.5 | 58.0 | | | |
| 3000 POTS | 3 S | 0942.5 | 0943.0 | 2.5 | 92.0 | | | | |
| 3013 IZMI | 5 S | 0942.5 | 0942.9 | 2.5 | 70.0 | 35.0 | | | |
| 9300 KISV | 2 S/F | 0951.3 | 0953.2 | 4.3 | 10.0 | | | | |
| 100 GORK | 41 F | 0951.7 | 1004.0 | 44.3 | 7661.0 | | | | |
| 100 GORK | 41 F | 0951.7 | 1035.2 | | 830.0 | | | | |
| 536 ONDR | 42 SER | 0957.5 | 1003.7 | 57.0 | 55.0 | | | | |
| 9300 KISV | 29 PBI | 1000.2 | 1005.7 | 16.9 | 117.0 | | | | |
| 9300 KISV | 4 S/F | 1000.2 | 1003.8 | 5.5 | 336.0 | | | | |
| 950 GORK | 4 S/F | 1000.3 | 1000.8 | 0.9 | 12.0 | | | | |
| 3013 IZMI | 7 C | 1000.4 | 1004.0 | 11.0 | 226.0 | 110.0 | | | |
| 5900 KISV | 29 PBI | 1000.4 | 1005.7 | 24.3 | 44.0 | | | | |
| 5900 KISV | 47 GB | 1000.4 | 1003.8 | 5.3 | 359.0 | | | | |
| 15000 KISV | 4 S/F | 1000.5 | 1003.8 | 6.1 | 265.0 | | | | |
| 15400 SGMR | 4 S/F | 1001.0E | 1003.0 | 3.00 | 190.0 | | | QL=1 ST=3 TYP=3 | |
| 15400 SVTO | 4 S/F | 1001.0E | 1003.0 | 4.00 | 310.0 | | | QL=1 ST=2 TYP=3 | |
| 8800 SVTO | 4 S/F | 1001.0E | 1003.0 | 4.00 | 300.0 | | | QL=1 ST=2 TYP=3 | |
| 9100 GORK | 1 S | 1001.5 | 1003.6 | 4.5 | 367.0 | | | | |
| 9500 POTS | 4 S/F | 1001.5 | 1003.9 | 14.0 | 265.0 | | | | |
| 8400 BERN | 4 S/F | 1002.0 | 1004.0 | 4.0 | 243.0 | | | | |

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

85
Jun 89

JUNE 1989

| Day | Freq | Sta | Type | Start (UT) | Time of Maximum (UT) | Duration (Min) | Flux Density | | Int | Remarks |
|-------|-------|--------|--------|------------|----------------------|----------------|---|-------|-----|-----------------|
| | | | | | | | Peak | Mean | | |
| | | | | | | | (10 ⁻²² W/m ² Hz) | | | |
| 15 | 11800 | BERN | 4 S/F | 1002.0 | 1004.0 | 4.0 | 259.0 | | | |
| | 19600 | BERN | 4 S/F | 1002.0 | 1004.0 | 4.0 | 174.0 | | | |
| | 35000 | BERN | 4 S/F | 1002.0 | 1004.0 | 4.0 | 116.0 | | | |
| | 5200 | BERN | 4 S/F | 1002.0 | 1004.0 | 4.0 | 185.0 | | | |
| | 3200 | BERN | 4 S/F | 1002.0 | 1004.0 | 4.0 | 132.0 | | | |
| | 3100 | CRIM | 3 S | 1002.0 | 1004.0 | 5.0 | 170.0 | 56.0 | | |
| | 3000 | POTS | 3 S | 1002.0 | 1004.0 | 6.0 | 196.0 | | | |
| | 4995 | SGMR | 4 S/F | 1002.0E | 1004.0 | 3.00 | 230.0 | | | QL=1 ST=3 TYP=3 |
| | 8800 | SGMR | 8 S | 1002.0E | 1003.0 | 2.00 | 180.0 | | | QL=1 ST=3 TYP=3 |
| | 4995 | SVTO | 4 S/F | 1002.0E | 1003.0 | 3.00 | 320.0 | | | QL=1 ST=2 TYP=3 |
| | 2950 | GORK | 3 S | 1002.5 | 1003.9 | 4.0 | 200.0 | | | |
| | 2695 | SGMR | 4 S/F | 1003.0E | 1004.0 | 4.00 | 150.0 | | | QL=1 ST=3 TYP=3 |
| | 4995 | SGMR | 8 S | 1003.0E | 1004.0 | 2.00 | 160.0 | | | QL=1 ST=2 TYP=3 |
| | 8800 | SGMR | 8 S | 1003.0E | 1003.0 | 1.00 | 110.0 | | | QL=1 ST=2 TYP=3 |
| | 15400 | SGMR | 8 S | 1003.0E | 1004.0 | 1.00 | 110.0 | | | QL=1 ST=2 TYP=3 |
| | 245 | SGMR | 49 GB | 1003.0E | 1004.0 | 1.00 | 930.0 | | | QL=1 ST=3 TYP=6 |
| | 410 | SGMR | 8 S | 1003.0E | 1003.0 | 1.00 | 400.0 | | | QL=1 ST=3 TYP=3 |
| | 2695 | SVTO | 4 S/F | 1003.0E | 1004.0 | 3.00 | 190.0 | | | QL=1 ST=2 TYP=3 |
| | 245 | SVTO | 49 GB | 1003.0E | 1004.0 | 1.00 | 630.0 | | | QL=1 ST=2 TYP=6 |
| | 410 | SVTO | 8 S | 1003.0E | 1003.0 | 1.00 | 350.0 | | | QL=1 ST=2 TYP=3 |
| | 600 | HUMN | 2 S/F | 1003.0 | 1003.4 | 4.0 | 10.0 | 3.0 | | |
| | 1470 | POTS | 3 S | 1003.0 | 1004.9 | 7.0 | 52.0 | | | |
| | 234 | POTS | 4 S/F | 1003.1 | 1003.9 | 2.5 | 1650.0 | | | |
| | 127 | TORN | 47 GB | 1003.2 | 1004.9 | 4.0 | 1050.0 | 540.0 | | |
| | 650 | GORK | 46 C | 1003.4 | 1009.0 | | 10.0 | | | |
| | 650 | GORK | 46 C | 1003.4 | 1003.6 | 6.1 | 37.0 | | | |
| | 30 | POTS | 4 S/F | 1003.4 | 1003.9 | 3.7 | 12000.0 | | | |
| | 950 | GORK | 3 S | 1003.5 | 1004.4 | 3.5 | 14.0 | | | |
| | 1415 | SVTO | 8 S | 1004.0E | 1004.0 | | 42.0 | | | QL=1 ST=2 TYP=3 |
| | 650 | GORK | 1 S | 1018.4 | 1019.0 | 3.9 | 3.0 | | | |
| | 950 | GORK | 3 S | 1018.5 | 1019.0 | 1.7 | 4.0 | | | |
| | 5900 | KISV | 2 S/F | 1021.3 | 1021.8 | 1.4 | 15.0 | | | |
| | 650 | GORK | 23 GRF | 1029.7 | 1128.0 | 90.30 | 3.0 | | | |
| | 1470 | POTS | 4 S/F | 1031.0 | 1034.8 | 9.0 | 48.0 | | | |
| | 810 | KRAK | 2 S/F | 1032.5 | 1033.8 | 3.5 | 26.0 | 5.0 | | |
| | 3013 | IZMI | 41 F | 1032.6 | 1036.3 | 23.0 | 63.0 | 30.0 | | |
| | 234 | POTS | 4 S/F | 1033.0 | 1035.0 | 3.7 | 1250.0 | | | |
| | 245 | SGMR | 49 GB | 1033.0E | 1035.0 | 7.00 | 1400.0 | | | QL=1 ST=3 TYP=6 |
| | 2695 | SGMR | 4 S/F | 1033.0E | 1035.0 | 3.00 | 57.0 | | | QL=1 ST=3 TYP=3 |
| | 1415 | SGMR | 4 S/F | 1033.0E | 1035.0 | 4.00 | 58.0 | | | QL=1 ST=3 TYP=3 |
| | 245 | SVTO | 49 GB | 1033.0E | 1035.0 | 5.00 | 910.0 | | | QL=1 ST=2 TYP=6 |
| | 3100 | CRIM | 30 PBI | 1033.0 | 1039.0 | 31.0 | 13.0 | 4.0 | | |
| | 3100 | CRIM | 3 S | 1033.0 | 1035.4 | 6.0 | 51.0 | 17.0 | | |
| | 9500 | POTS | 3 S | 1033.0 | 1035.5 | 7.0 | 55.0 | | | |
| | 30 | POTS | 4 S/F | 1033.6 | 1034.1 | 4.5 | 6500.0 | | | |
| | 9100 | GORK | 3 S | 1033.7 | 1035.1 | 6.7 | 61.0 | | | |
| | 950 | GORK | 4 S/F | 1033.8 | 1035.1 | 4.7 | 18.0 | | | |
| | 2950 | GORK | 3 S | 1033.8 | 1035.5 | 5.7 | 52.0 | | | |
| | 650 | GORK | 4 S/F | 1033.9 | 1035.0 | 4.7 | 28.0 | | | |
| | 600 | HUMN | 2 S/F | 1034.0 | 1035.0 | 3.0 | 12.0 | 4.0 | | |
| | 4995 | SGMR | 4 S/F | 1034.0E | 1035.0 | 3.00 | 100.0 | | | QL=1 ST=3 TYP=3 |
| | 8800 | SGMR | 8 S | 1035.0E | 1035.0 | | 60.0 | | | QL=1 ST=3 TYP=3 |
| | 410 | SGMR | 8 S | 1035.0E | 1035.0 | 1.00 | 73.0 | | | QL=1 ST=3 TYP=3 |
| | 650 | GORK | 2 S/F | 1049.9 | 1051.4 | 3.6 | 7.0 | | | |
| | 5900 | KISV | 4 S/F | 1050.4 | 1051.7 | 6.5 | 34.0 | | | |
| | 9100 | GORK | 2 S/F | 1050.7 | 1052.5 | 5.0 | 35.0 | | | |
| 2950 | GORK | 1 S | 1050.7 | 1051.7 | 3.0 | 15.0 | | | | |
| 3000 | POTS | 3 S | 1050.7 | 1051.7 | 7.3 | 18.0 | | | | |
| 9300 | KISV | 2 S/F | 1050.9 | 1052.5 | 6.4 | 37.0 | | | | |
| 9500 | POTS | 4 S/F | 1051.0 | 1052.5 | 7.0 | 26.0 | | | | |
| 3100 | CRIM | 1 S | 1051.0 | 1051.6 | 3.0 | 13.0 | 4.0 | | | |
| 15000 | KISV | 2 S/F | 1051.3 | 1052.7 | 4.0 | 14.0 | | | | |
| 950 | GORK | 3 S | 1051.6 | 1052.3 | 1.4 | 7.0 | | | | |
| 5900 | KISV | 2 S/F | 1059.3 | 1100.0 | 2.5 | 9.0 | | | | |
| 9300 | KISV | 2 S/F | 1059.3 | 1059.9 | 6.0 | 11.0 | | | | |
| 3100 | CRIM | 25 R | 1116.5 | 1122.6 | | 19.0 | | | | |
| 234 | POTS | 4 S/F | 1121.9 | 1122.4 | 0.9 | 220.0 | | | | |
| 1470 | POTS | 2 S/F | 1122.0 | 1127.8 | 8.0 | 15.0 | | | | |
| 3000 | POTS | 21 GRF | 1122.5 | 1127.8 | 63.0 | 24.0 | | | | |

86
Jun 89

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

JUNE 1989

| Day | Freq | Sta | Type | Start (UT) | Time of Maximum (UT) | Duration (Min) | Flux Density | | Int | Remarks |
|-------|-------|--------|---------|------------|----------------------|----------------|-----------------------------------|-------|-----------------|-----------------|
| | | | | | | | Peak (10 -22 W/m ² Hz) | Mean | | |
| 15 | 9300 | KISV | 22 GRF | 1126.1 | 1139.2 | 15.6 | 19.0 | | | |
| | 950 | GORK | 3 S | 1126.3 | 1128.0 | 3.0 | 12.0 | | | |
| | 3100 | CRIM | 1 S | 1126.5 | 1127.8 | 3.0 | 13.0 | 4.0 | | |
| | 5900 | KISV | 22 GRF | 1126.7 | 1133.2 | 20.4 | 22.0 | | | |
| | 9500 | POTS | 21 GRF | 1127.0 | 1205.2 | 116.0 | 20.0 | | | |
| | 204 | IZMI | 42 SER | 1145.0 | 1145.3 | 0.5 | 550.0 | 300.0 | | |
| | 536 | ONDR | 42 SER | 1151.5 | 1229.3 | 50.0 | 51.0 | | | |
| | 9300 | KISV | 2 S/F | 1158.2 | 1159.3 | 2.1 | 14.0 | | | |
| | 9300 | KISV | 1 S | 1205.0 | 1205.3 | 0.7 | 24.0 | | | |
| | 9300 | KISV | 2 S/F | 1222.0 | 1223.4 | 4.7 | 11.0 | | | |
| | 810 | KRAK | 8 S | 1227.7 | 1227.8 | 0.2 | 14.0 | | | |
| | 410 | SGMR | 8 S | 1229.0E | 1229.0 | U | 310.0 | | | QL=1 ST=2 TYP=3 |
| | 245 | SGMR | 49 GB | 1229.0E | 1229.0 | 1.0D | 4600.0 | | | QL=1 ST=2 TYP=6 |
| | 410 | SVTO | 8 S | 1229.0E | 1229.0 | U | 300.0 | | | QL=1 ST=2 TYP=3 |
| | 245 | SVTO | 49 GB | 1229.0E | 1229.0 | 1.0D | 3500.0 | | | QL=1 ST=2 TYP=6 |
| | 234 | POTS | 8 S | 1229.3 | 1229.5 | 0.7 | 6000.0 | | | |
| | 9500 | POTS | 4 S/F | 1412.5 | 1420.0 | 36.0 | 260.0 | | | |
| | 2800 | OTTA | 3 S | 1413.5 | 1420.0 | 8.0 | 179.7 | 54.0 | | |
| | 234 | POTS | 4 S/F | 1417.4 | 1418.7 | 2.8 | 700.0 | | | |
| | 536 | ONDR | 41 F | 1417.5 | 1418.2 | 36.0 | 86.0 | | | |
| | 40 | POTS | 4 S/F | 1417.6 | 1418.0 | 1.1 | 48000.0 | | | |
| | 1415 | SGMR | 4 S/F | 1418.0E | 1419.0 | 6.0D | 250.0 | | | QL=1 ST=2 TYP=3 |
| | 15400 | SGMR | 4 S/F | 1418.0E | 1419.0 | 3.0D | 160.0 | | | QL=1 ST=2 TYP=3 |
| | 2695 | SGMR | 4 S/F | 1418.0E | 1419.0 | 5.0D | 170.0 | | | QL=1 ST=2 TYP=3 |
| | 245 | SGMR | 49 GB | 1418.0E | 1418.0 | 2.0D | 1000.0 | | | QL=1 ST=2 TYP=6 |
| | 4995 | SGMR | 4 S/F | 1418.0E | 1419.0 | 7.0D | 240.0 | | | QL=1 ST=2 TYP=3 |
| | 1415 | SVTO | 4 S/F | 1418.0E | 1419.0 | 5.0D | 230.0 | | | QL=1 ST=2 TYP=3 |
| | 4995 | SVTO | 4 S/F | 1418.0E | 1419.0 | 6.0D | 230.0 | | | QL=1 ST=2 TYP=3 |
| | 245 | SVTO | 49 GB | 1418.0E | 1419.0 | 1.0D | 680.0 | | | QL=1 ST=2 TYP=6 |
| | 15400 | SVTO | 4 S/F | 1418.0E | 1419.0 | 4.0D | 190.0 | | | QL=1 ST=2 TYP=3 |
| | 2695 | SVTO | 4 S/F | 1418.0E | 1419.0 | 5.0D | 190.0 | | | QL=1 ST=2 TYP=3 |
| | 410 | SVTO | 4 S/F | 1418.0E | 1419.0 | 4.0D | 240.0 | | | QL=1 ST=2 TYP=3 |
| | 8800 | SVTO | 4 S/F | 1418.0E | 1419.0 | 7.0D | 350.0 | | | QL=1 ST=2 TYP=3 |
| | 610 | SVTO | 4 S/F | 1418.0E | 1420.0 | 5.0D | 110.0 | | | QL=1 ST=3 TYP=3 |
| | 3000 | POTS | 4 S/F | 1418.0 | 1420.0 | 17.0 | 159.0 | | | |
| | 8800 | SGMR | 4 S/F | 1418.0E | 1419.0 | 11.0D | 380.0 | | | QL=1 ST=2 TYP=3 |
| | 600 | HUMN | 4 S/F | 1418.0 | 1420.0 | 21.0 | 69.0 | 10.0 | | |
| | 1470 | POTS | 4 S/F | 1418.0 | 1420.0 | 22.0 | 226.0 | | | |
| | 3200 | BERN | 46 C | 1418.0 | 1419.4 | 3.5 | 83.0 | | | |
| | 5200 | BERN | 46 C | 1418.0 | 1419.4 | 3.5 | 114.0 | | | |
| | 19600 | BERN | 46 C | 1418.0 | 1419.4 | 3.5 | 83.0 | | | |
| | 8400 | BERN | 46 C | 1418.0 | 1419.4 | 3.5 | 212.0 | | | |
| | 11800 | BERN | 46 C | 1418.0 | 1419.4 | 3.5 | 209.0 | | | |
| | 410 | SGMR | 8 S | 1419.0E | 1419.0 | 2.0D | 190.0 | | | QL=1 ST=2 TYP=3 |
| | 610 | SGMR | 4 S/F | 1419.0E | 1421.0 | 4.0D | 170.0 | | | QL=1 ST=2 TYP=3 |
| | 2800 | OTTA | 29 PBI | 1425.5 | 1425.5 | 230.0 | 18.8 | 9.0 | | |
| | 600 | HUMN | 4 S/F | 1622.0 | 1626.0 | 6.0 | 28.0 | 10.0 | | |
| | 600 | HUMN | 3 S | 1659.5 | 1659.7 | 0.5 | 42.0 | 18.0 | | |
| | 2800 | OTTA | 3 S | 1708.0 | 1715.0 | 12.0 | 95.2 | 29.0 | | |
| | 600 | HUMN | 4 S/F | 1712.0 | 1714.5 | 8.0 | 48.0 | 10.0 | | |
| 1415 | SGMR | 4 S/F | 1713.0E | 1714.0 | 3.0D | 150.0 | | | QL=1 ST=2 TYP=3 | |
| 4995 | SGMR | 4 S/F | 1713.0E | 1714.0 | 9.0D | 110.0 | | | QL=1 ST=2 TYP=3 | |
| 5200 | BERN | 3 S | 1713.3 | 1714.4 | 2.5 | 47.0 | | | | |
| 8400 | BERN | 3 S | 1713.3 | 1714.4 | 2.5 | 50.0 | | | | |
| 11800 | BERN | 3 S | 1713.3 | 1714.4 | 2.5 | 45.0 | | | | |
| 3200 | BERN | 3 S | 1713.3 | 1714.4 | 2.5 | 41.0 | | | | |
| 1415 | PALE | 8 S | 1714.0E | 1714.0 | 1.0D | 130.0 | | | QL=1 ST=2 TYP=3 | |
| 2695 | PALE | 8 S | 1714.0E | 1714.0 | 2.0D | 110.0 | | | QL=1 ST=2 TYP=3 | |
| 610 | PALE | 8 S | 1714.0E | 1714.0 | 1.0D | 120.0 | | | QL=1 ST=2 TYP=3 | |
| 8800 | PALE | 8 S | 1714.0E | 1714.0 | 1.0D | 76.0 | | | QL=1 ST=2 TYP=3 | |
| 610 | SGMR | 8 S | 1714.0E | 1714.0 | 1.0D | 120.0 | | | QL=1 ST=2 TYP=3 | |
| 2695 | SGMR | 4 S/F | 1714.0E | 1714.0 | 3.0D | 93.0 | | | QL=1 ST=2 TYP=3 | |
| 8800 | SGMR | 8 S | 1714.0E | 1714.0 | 2.0D | 86.0 | | | QL=1 ST=2 TYP=3 | |
| 610 | SVTO | 8 S | 1714.0E | 1714.0 | 1.0D | 64.0 | | | QL=1 ST=3 TYP=3 | |
| 2695 | SVTO | 8 S | 1714.0E | 1714.0 | 2.0D | 92.0 | | | QL=1 ST=3 TYP=3 | |
| 4995 | SVTO | 4 S/F | 1714.0E | 1714.0 | 3.0D | 95.0 | | | QL=1 ST=3 TYP=3 | |
| 1415 | SVTO | 8 S | 1714.0E | 1714.0 | 1.0D | 120.0 | | | QL=1 ST=3 TYP=3 | |
| 8800 | SVTO | 8 S | 1714.0E | 1714.0 | 1.0D | 68.0 | | | QL=1 ST=3 TYP=3 | |
| 2800 | OTTA | 29 PBI | 1720.0 | 1720.0 | 44.0 | 21.9 | 11.0 | | | |

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

87
Jun 89

JUNE 1989

| Day | Freq Sta | Type | Start (UT) | Time of Maximum (UT) | Duration (Min) | Flux Density | | Int | Remarks |
|------------|-----------|---------|------------|----------------------|----------------|--|-----------------|-----------------|---------|
| | | | | | | Peak (10 ⁻²² W/m ² Hz) | Mean | | |
| 15 | 2800 OTTA | 28 PRE | 1809.0 | 1911.0 | 62.0 | 34.4 | 17.0 | | |
| | 8800 SGMR | 4 S/F | 1854.0E | 1855.0 | 3.0D | 81.0 | | QL=1 ST=2 TYP=3 | |
| | 600 HUMN | 4 S/F | 1855.0 | 1859.0 | 5.0 | 52.0 | 14.0 | | |
| | 610 SGMR | 4 S/F | 1855.0E | 1859.0 | 5.0D | 110.0 | | QL=1 ST=2 TYP=5 | |
| | 610 PALE | 8 S | 1859.0E | 1859.0 | U | 69.0 | | QL=1 ST=2 TYP=3 | |
| | 610 SGMR | 49 GB | 1908.0E | 1912.0 | 6.0D | 350.0 | | QL=1 ST=2 TYP=7 | |
| | 8800 SGMR | 49 GB | 1910.0E | 1912.0 | 26.0D | 1800.0 | | QL=1 ST=2 TYP=6 | |
| | 2800 OTTA | 47 GB | 1911.0 | 1912.3 | 7.0 | 1100.0 | 220.0 | | |
| | 410 PALE | 4 S/F | 1911.0E | 1912.0 | 3.0D | 410.0 | | QL=1 ST=2 TYP=3 | |
| | 2695 SGMR | 49 GB | 1911.0E | 1912.0 | 7.0D | 1100.0 | | QL=1 ST=2 TYP=6 | |
| | 1415 SGMR | 49 GB | 1911.0E | 1912.0 | 37.0D | 1100.0 | | QL=1 ST=2 TYP=6 | |
| | 245 PALE | 49 GB | 1912.0E | 1913.0 | 2.0D | 740.0 | | QL=1 ST=3 TYP=6 | |
| | 2800 OTTA | 29 PBI | 1918.0 | 1918.0 | 222.0 | 50.1 | 25.0 | | |
| | 200 HIRA | 27 RF | 1925.0E | 2035.0 | 235.0D | 650.0 | 290.0 | ML | |
| | 500 HIRA | 27 RF | 1925.0E | 2025.0 | 455.0D | 595.0 | 174.0 | SL | |
| | 100 HIRA | 27 RF | 1925.0E | 2022.0U | 335.0D | 1000.0D | 560.0D | | |
| | 2695 PALE | 4 S/F | 1927.0E | 1928.0 | 7.0D | 86.0 | | QL=1 ST=2 TYP=3 | |
| | 1415 PALE | 20 GRF | 1927.0E | 1928.0 | 17.0D | 170.0 | | QL=1 ST=3 TYP=2 | |
| | 410 PALE | 49 GB | 1927.0E | 2026.0 | 71.0D | 880.0 | | QL=1 ST=3 TYP=7 | |
| | 245 PALE | 49 GB | 1927.0E | 2033.0 | 71.0D | 1500.0 | | QL=1 ST=3 TYP=7 | |
| 610 PALE | 49 GB | 1927.0E | 1943.0 | 71.0D | 1300.0 | | QL=1 ST=3 TYP=7 | | |
| 16 | 100 HIRA | 44 NS | 0100.0E | | 525.0D | | 150.0 | | |
| | 100 GORK | 43 NS | 0257.5 | | 542.5 | | 40.0 | | |
| | 245 SVTO | 44 NS | 0340.0E | 0819.0 | 857.0D | 430.0 | | QL=1 ST=2 TYP=1 | |
| | 260 ONDR | 44 NS | 0530.0E | | 620.0D | | | | |
| | 234 POTS | 44 NS | 0530.0E | 1317.0 | 552.0D | 175.0 | | | |
| | 204 IZMI | 43 NS | 0600.0 | | 360.0 | 50.0 | | | |
| | 127 TORN | 44 NS | 0620.0E | | 560.0D | | 370.0 | V=1 | |
| | 430 KRAK | 43 NS | 0714.2 | 0755.5 | 139.3 | 115.0 | 31.0 | | |
| | 410 SVTO | 43 NS | 0755.0 | 0803.0 | 17.0 | 78.0 | | QL=1 ST=2 TYP=1 | |
| | 245 SGMR | 44 NS | 0931.0E | 1135.0 | 869.0D | 590.0 | | QL=1 ST=3 TYP=1 | |
| | 600 HUMN | 43 NS | 0957.0 | 1125.0 | 480.0D | 60.0 | | | |
| | 810 KRAK | 43 NS | 1017.0 | 1125.3 | 164.0D | 65.0 | 26.0 | | |
| | 410 SVTO | 44 NS | 1029.0E | 1119.0 | 448.0D | 260.0 | | QL=1 ST=2 TYP=1 | |
| | 610 SGMR | 43 NS | 1058.0 | 1135.0 | 782.0 | 170.0 | | QL=1 ST=3 TYP=1 | |
| | 410 SGMR | 43 NS | 1058.0 | 1146.0 | 782.0 | 310.0 | | QL=1 ST=3 TYP=1 | |
| | 100 HIRA | 44 NS | 1925.0E | 2200.0 | 290.0D | 90.0 | 40.0 | | |
| | 200 HIRA | 44 NS | 1925.0E | 2122.0 | 860.0D | 140.0 | 46.0 | WL | |
| | 245 LEAR | 43 NS | 2319.0 | 0002.0 | 461.0 | 250.0 | | QL=1 ST=2 TYP=1 | |
| | 650 GORK | 23 GRF | 0300.0E | 0808.7 | 540.0D | 27.0 | | | |
| | 950 GORK | 23 GRF | 0306.0E | 0325.0 | 122.4D | 9.0 | | | |
| | 9100 GORK | 22 GRF | 0306.8 | 0329.2 | 33.8 | 21.0 | | | |
| | 100 HIRA | 41 F | 0321.8 | | 4.6 | 1000.0D | | | |
| | 2840 PEKG | 20 GRF | 0414.0 | 0453.0 | 39.0 | 8.1 | | | |
| | 2950 GORK | 21 GRF | 0415.1 | 0436.0 | 43.9 | 14.0 | | | |
| | 9100 GORK | 23 GRF | 0427.0E | 0521.3 | 453.0D | 60.0 | | | |
| | 200 HIRA | 46 C | 0448.7 | 0449.6 | 1.5 | 620.0 | | 0 | |
| | 100 HIRA | 46 C | 0448.8 | | 2.2 | 1000.0D | | | |
| | 9300 KISV | 46 C | 0448.8 | 0450.5 | | 43.0 | | | |
| | 9300 KISV | 46 C | 0448.8 | 0449.5 | 4.2 | 43.0 | | | |
| | 5900 KISV | 46 C | 0448.8 | 0449.6 | | 36.0 | | | |
| | 5900 KISV | 46 C | 0448.8 | 0450.6 | 4.4 | 43.0 | | | |
| | 9300 KISV | 46 C | 0448.8 | 0451.8 | | 24.0 | | | |
| | 5900 KISV | 46 C | 0448.8 | 0451.8 | | 28.0 | | | |
| | 610 LEAR | 8 S | 0449.0E | 0449.0 | 2.0D | 30.0 | | QL=1 ST=2 TYP=3 | |
| | 245 LEAR | 8 S | 0449.0E | 0449.0 | 1.0D | 96.0 | | QL=1 ST=2 TYP=3 | |
| | 410 LEAR | 8 S | 0449.0E | 0449.0 | 1.0D | 140.0 | | QL=1 ST=2 TYP=3 | |
| 15400 LEAR | 8 S | 0449.0E | 0449.0 | 2.0D | 42.0 | | QL=1 ST=2 TYP=3 | | |
| 245 PALE | 8 S | 0449.0E | 0449.0 | 1.0D | 250.0 | | QL=1 ST=2 TYP=3 | | |
| 410 PALE | 8 S | 0449.0E | 0449.0 | 1.0D | 150.0 | | QL=1 ST=2 TYP=3 | | |
| 8800 SVTO | 8 S | 0449.0E | 0449.0 | U | 42.0 | | QL=1 ST=2 TYP=3 | | |
| 245 SVTO | 8 S | 0449.0E | 0449.0 | 1.0D | 180.0 | | QL=1 ST=2 TYP=3 | | |
| 410 SVTO | 8 S | 0449.0E | 0449.0 | 1.0D | 180.0 | | QL=1 ST=2 TYP=3 | | |
| 9100 GORK | 46 C | 0449.0 | 0450.5 | | 51.0 | | | | |
| 9100 GORK | 46 C | 0449.0 | 0449.5 | 3.8 | 51.0 | | | | |
| 3100 CRIM | 4 S/F | 0449.0 | 0449.7 | 5.0 | 85.0 | 25.0 | | | |
| 2950 GORK | 46 C | 0449.2 | 0450.1 | | 74.0 | | | | |
| 2950 GORK | 46 C | 0449.2 | 0449.8 | 3.8 | 63.0 | | | | |

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

JUNE 1989

| Day | Freq | Sta | Type | Start (UT) | Time of Maximum (UT) | Duration (Min) | Flux Density Peak (10 ⁻²² W/m ² Hz) | Flux Density Mean | Int | Remarks |
|------|-------|--------|---------|------------|----------------------|----------------|---|-------------------|-----------------|-----------------|
| 16 | 15000 | KISV | 46 C | 0449.3 | 0449.5 | 3.4 | 37.0 | | | |
| | 15000 | KISV | 46 C | 0449.3 | 0450.5 | | 25.0 | | | |
| | 100 | GORK | 4 S/F | 0449.3 | 0449.7 | 4.7 | 589.0 | | | |
| | 15000 | KISV | 46 C | 0449.3 | 0451.8 | | 11.0 | | | |
| | 650 | GORK | 46 C | 0449.4 | 0449.4 | 4.1 | 31.0 | | | |
| | 650 | GORK | 46 C | 0449.4 | 0450.6 | | 23.0 | | | |
| | 950 | GORK | 4 S/F | 0449.4 | 0450.7 | 3.6 | 13.0 | | | |
| | 2695 | SVTO | 8 S | 0450.0E | 0450.0 | U | 78.0 | | | QL=1 ST=2 TYP=3 |
| | 33 | UPIC | 45 C | 0450.0 | 0450.5 | 2.3 | | | | |
| | 2840 | PEKG | 22 GRF | 0500.0 | 0524.0 | 24.0D | 45.5 | | | |
| | 3100 | CRIM | 21 GRF | 0504.0 | 0518.0 | 260.0 | 25.0 | 8.0 | | |
| | 2950 | GORK | 21 GRF | 0509.0 | 0803.0 | 363.5 | 34.0 | | | |
| | 5900 | KISV | 46 C | 0509.5 | 0514.0 | | 46.0 | | | |
| | 5900 | KISV | 46 C | 0509.5 | 0532.2 | | 46.0 | | | |
| | 5900 | KISV | 46 C | 0509.5 | 0523.7 | 36.1 | 96.0 | | | |
| | 5900 | KISV | 46 C | 0509.5 | 0525.8 | | 61.0 | | | |
| | 5900 | KISV | 46 C | 0509.5 | 0517.9 | | 65.0 | | | |
| | 4995 | SVTO | 4 S/F | 0512.0E | 0517.0 | 6.0D | 56.0 | | | QL=1 ST=3 TYP=3 |
| | 9300 | KISV | 46 C | 0512.0 | 0532.4 | | 72.0 | | | |
| | 9300 | KISV | 46 C | 0512.0 | 0538.4 | | 98.0 | | | |
| | 9300 | KISV | 29 PBI | 0512.0 | 0555.5 | 72.0 | 37.0 | | | |
| | 9300 | KISV | 46 C | 0512.0 | 0523.7 | 43.5 | 154.0 | | | |
| | 9300 | KISV | 46 C | 0512.0 | 0513.9 | | 29.0 | | | |
| | 9300 | KISV | 46 C | 0512.0 | 0517.9 | | 45.0 | | | |
| | 950 | GORK | 4 S/F | 0512.9 | 0514.2 | 3.1 | 22.0 | | | |
| | 2950 | GORK | 4 S/F | 0513.1 | 0514.2 | 5.6 | 23.0 | | | |
| | 9100 | GORK | 2 S/F | 0513.2 | 0518.2 | 6.8 | 35.0 | | | |
| | 3100 | CRIM | 1 S | 0513.3 | 0514.2 | 1.4 | 24.0 | 6.0 | | |
| | 15400 | LEAR | 4 S/F | 0517.0E | 0523.0 | 21.0D | 140.0 | | | QL=1 ST=2 TYP=3 |
| | 15400 | SVTO | 4 S/F | 0520.0E | 0523.0 | 13.0D | 130.0 | | | QL=1 ST=2 TYP=3 |
| | 15000 | KISV | 29 PBI | 0520.0 | 0526.6 | 42.8 | 127.0 | | | |
| | 15000 | KISV | 4 S/F | 0520.0 | 0523.7 | 6.6 | 159.0 | | | |
| | 9100 | GORK | 4 S/F | 0521.9 | 0523.7 | 8.1 | 136.0 | | | |
| | 8800 | SVTO | 4 S/F | 0522.0E | 0523.0 | 8.0D | 110.0 | | | QL=1 ST=2 TYP=3 |
| | 3100 | CRIM | 1 S | 0522.4 | 0523.1 | 3.0 | 24.0 | 6.0 | | |
| | 4995 | SVTO | 4 S/F | 0523.0E | 0523.0 | 4.0D | 64.0 | | | QL=1 ST=2 TYP=3 |
| | 2950 | GORK | 4 S/F | 0523.1 | 0523.8 | 3.2 | 21.0 | | | |
| | 2950 | GORK | 1 S | 0523.8 | 0532.1 | 10.4 | 10.0 | | | |
| | 536 | ONDR | 41 F | 0530.0E | 0740.8 | 590.0D | 247.0 | | | |
| | 15000 | KISV | 2 S/F | 0538.0 | 0538.2 | 0.7 | 48.0 | | | |
| | 950 | GORK | 4 S/F | 0543.2 | 0544.0 | 1.8 | 48.0 | | | |
| | 650 | GORK | 8 S | 0548.4 | 0549.0 | 0.8 | 57.0 | | | |
| | 950 | GORK | 4 S/F | 0548.8 | 0550.0 | 1.6 | 61.0 | | | |
| | 100 | GORK | 41 F | 0554.4 | 0559.0 | | 680.0 | | | |
| | 100 | GORK | 41 F | 0554.4 | 0555.6 | 11.6 | 560.0 | | | |
| | 3100 | CRIM | 1 S | 0613.0 | 0614.5 | 3.0 | 16.0 | 5.0 | | |
| | 5900 | KISV | 4 S/F | 0613.0 | 0614.8 | 4.7 | 103.0 | | | |
| | 9100 | GORK | 3 S | 0613.2 | 0614.7 | 4.8 | 70.0 | | | |
| | 9300 | KISV | 4 S/F | 0613.2 | 0614.8 | 4.4 | 69.0 | | | |
| | 15000 | KISV | 2 S/F | 0613.2 | 0614.8 | 3.8 | 27.0 | | | |
| 2950 | GORK | 1 S | 0613.8 | 0614.8 | 2.7 | 14.0 | | | | |
| 3013 | IZMI | 5 S | 0613.8 | 0614.8 | 2.5 | 16.0 | 8.0 | | | |
| 4995 | SVTO | 8 S | 0614.0E | 0614.0 | 1.0D | 66.0 | | | QL=1 ST=2 TYP=3 | |
| 8800 | SVTO | 8 S | 0614.0E | 0614.0 | 1.0D | 73.0 | | | QL=1 ST=2 TYP=3 | |
| 200 | HIRA | 8 S | 0643.8 | 0643.8 | 0.4 | 1250.0 | | | | |
| 245 | LEAR | 8 S | 0644.0E | 0644.0 | U | 310.0 | | | QL=1 ST=2 TYP=3 | |
| 245 | SVTO | 8 S | 0644.0E | 0644.0 | U | 330.0 | | | QL=1 ST=2 TYP=3 | |
| 234 | POTS | 4 S/F | 0644.0 | 0644.4 | 0.5 | 650.0 | | | | |
| 204 | IZMI | 4 S/F | 0644.3 | 0644.5 | 0.6 | 1100.0 | 600.0 | | | |
| 9500 | POTS | 21 GRF | 0658.0 | 0717.5 | 37.0 | 31.0 | | | | |
| 9300 | KISV | 23 GRF | 0658.9 | 0711.6 | 100.7 | 28.0 | | | | |
| 9300 | KISV | 2 S/F | 0701.1 | 0702.2 | 5.8 | 21.0 | | | | |
| 3013 | IZMI | 5 S | 0701.5 | 0702.2 | 1.0 | 13.0 | 6.0 | | | |
| 3100 | CRIM | 4 S/F | 0701.6 | 0702.2 | 1.0 | 68.0 | 23.0 | | | |
| 3000 | POTS | 3 S | 0701.8 | 0702.1 | 1.2 | 28.0 | | | | |
| 2950 | GORK | 2 S/F | 0702.0E | 0702.2 | 0.9D | 28.0 | | | | |
| 100 | GORK | 41 F | 0703.0 | 0730.0 | | 1120.0 | | | | |
| 100 | GORK | 41 F | 0703.0 | 0725.0 | 38.4 | 1560.0 | | | | |
| 600 | HUMN | 27 RF | 0705.0 | 0756.0 | 115.0 | 78.0 | 8.0 | | | |

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

89
Jun 89

JUNE 1989

| Day | Freq | Sta | Type | Start (UT) | Time of Maximum (UT) | Duration (Min) | Flux Density | | Int | Remarks |
|------|-------|--------|---------|------------|----------------------|----------------|--|-------|-----------------|-----------------|
| | | | | | | | Peak (10 ⁻²² W/m ² Hz) | Mean | | |
| 16 | 950 | GORK | 23 GRF | 0716.5 | 0809.0 | 67.5 | 7.0 | | | |
| | 9100 | GORK | 1 S | 0716.7 | 0717.8 | 2.8 | 14.0 | | | |
| | 15000 | KISV | 2 S/F | 0716.8 | 0717.5 | 2.9 | 16.0 | | | |
| | 9300 | KISV | 2 S/F | 0716.8 | 0717.5 | 2.7 | 15.0 | | | |
| | 9300 | KISV | 2 S/F | 0722.0 | 0722.7 | 1.3 | 7.0 | | | |
| | 9300 | KISV | 47 GB | 0736.4 | 0739.4 | 29.0 | 608.0 | | | |
| | 9100 | GORK | 4 S/F | 0736.6 | 0740.8 | 6.4 | 307.0 | | | |
| | 15000 | KISV | 47 GB | 0736.8 | 0739.0 | 5.8 | 1012.0 | | | |
| | 15000 | KISV | 29 PBI | 0736.8 | 0742.6 | 54.0 | 132.0 | | | |
| | 9500 | POTS | 45 C | 0737.0 | 0739.0 | 123.0 | 590.0 | | | |
| | 5900 | KISV | 29 PBI | 0737.4 | 0742.0 | 37.8 | 65.0 | | | |
| | 5900 | KISV | 47 GB | 0737.4 | 0739.2 | 4.6 | 382.0 | | | |
| | 2695 | SVTO | 4 S/F | 0738.0E | 0739.0 | 3.0D | 240.0 | | | QL=1 ST=3 TYP=3 |
| | 4995 | SVTO | 4 S/F | 0738.0E | 0739.0 | 4.0D | 300.0 | | | QL=1 ST=3 TYP=3 |
| | 15400 | LEAR | 49 GB | 0738.0E | 0739.0 | 18.0D | 1200.0 | | | QL=1 ST=2 TYP=6 |
| | 15400 | SVTO | 49 GB | 0738.0E | 0739.0 | 10.0D | 1100.0 | | | QL=1 ST=2 TYP=6 |
| | 3100 | CRIM | 3 S | 0738.0 | 0739.2 | 4.5 | 230.0 | 76.0 | | |
| | 3000 | POTS | 45 C | 0738.0 | 0739.2 | 107.0 | 237.0 | | | |
| | 3100 | CRIM | 30 PBI | 0738.0 | 0742.5 | 57.5 | 25.0 | 8.0 | | |
| | 1470 | POTS | 45 C | 0738.0 | 0739.5 | 112.0 | 195.0 | | | |
| | 3013 | IZMI | 7 C | 0738.1 | 0739.3 | 17.0 | 233.0 | 110.0 | | |
| | 2950 | GORK | 3 S | 0738.2 | 0739.0 | 4.8 | 161.0 | | | |
| | 5200 | BERN | 47 GB | 0738.3 | 0739.0 | 4.0 | 175.0 | | | |
| | 50000 | BERN | 47 GB | 0738.3 | 0739.0 | 4.0 | 1580.0 | | | |
| | 35000 | BERN | 47 GB | 0738.3 | 0739.0 | 4.0 | 2590.0 | | | |
| | 19600 | BERN | 47 GB | 0738.3 | 0739.0 | 4.0 | 1668.0 | | | |
| | 11800 | BERN | 47 GB | 0738.3 | 0739.0 | 4.0 | 1975.0 | | | |
| | 8400 | BERN | 47 GB | 0738.3 | 0739.0 | 4.0 | 878.0 | | | |
| | 610 | LEAR | 49 GB | 0739.0E | 0740.0 | 3.0D | 4400.0 | | | QL=1 ST=2 TYP=6 |
| | 1415 | SVTO | 8 S | 0739.0E | 0739.0 | U | 120.0 | | | QL=1 ST=3 TYP=3 |
| | 650 | GORK | 41 F | 0739.3 | 0741.0 | | 6046.0 | | | |
| | 650 | GORK | 41 F | 0739.3 | 0742.0 | | 541.0 | | | |
| | 650 | GORK | 41 F | 0739.3 | 0739.4 | 2.9 | 249.0 | | | |
| | 950 | GORK | 4 S/F | 0739.3 | 0739.5 | 1.3 | 22.0 | | | |
| | 808 | ONDR | 42 SER | 0739.7 | 0740.0 | 26.0 | 115.0 | | | |
| | 500 | HIRA | 41 F | 0740.0 | 0741.0 | 3.0 | 1330.0 | | | WL |
| | 610 | SVTO | 49 GB | 0740.0E | 0741.0 | 1.0D | 6300.0 | | | QL=1 ST=3 TYP=6 |
| | 410 | LEAR | 8 S | 0741.0E | 0743.0 | 2.0D | 330.0 | | | QL=1 ST=2 TYP=3 |
| | 245 | LEAR | 4 S/F | 0741.0E | 0741.0 | 6.0D | 190.0 | | | QL=1 ST=2 TYP=3 |
| | 410 | SVTO | 8 S | 0741.0E | 0743.0 | 2.0D | 200.0 | | | QL=1 ST=3 TYP=3 |
| | 245 | SVTO | 4 S/F | 0741.0E | 0741.0 | 3.0D | 200.0 | | | QL=1 ST=3 TYP=3 |
| | 950 | GORK | 4 S/F | 0744.4 | 0744.7 | 1.4 | 13.0 | | | |
| | 2950 | GORK | 1 S | 0744.4 | 0744.9 | 1.6 | 14.0 | | | |
| | 3100 | CRIM | 1 S | 0745.3 | 0745.7 | 1.0 | 15.0 | 5.0 | | |
| | 500 | HIRA | 27 RF | 0746.0 | 0755.9 | 58.0 | 53.0 | 18.0 | | ML |
| 2950 | GORK | 1 S | 0748.1 | 0749.2 | 3.4 | 12.0 | | | | |
| 3100 | CRIM | 1 S | 0748.6 | 0749.3 | 3.0 | 12.0 | 4.0 | | | |
| 950 | GORK | 4 S/F | 0801.0 | 0803.6 | 6.5 | 14.0 | | | | |
| 810 | KRAK | 26 FAL | 0807.5 | 0807.5 | 80.5 | 11.0 | 6.0 | | | |
| 950 | GORK | 22 GRF | 0910.6 | 1108.4 | 169.4D | 32.0 | | | | |
| 100 | GORK | 8 S | 0930.0 | 0930.8 | 2.0 | 734.0 | | | | |
| 430 | KRAK | 49 GB | 0959.2 | 1143.0U | 182.0D | 310.0D | 150.0D | | | |
| 430 | KRAK | 49 GB | 0959.2 | 1203.4 | | 350.0 | | | | |
| 650 | GORK | 27 RF | 1012.0 | 1125.0 | 108.0D | 96.0 | | | | |
| 808 | ONDR | 27 RF | 1018.0 | 1125.4 | 110.0 | 18.0 | | | | |
| 410 | SGMR | 20 GRF | 1048.0E | 1051.0 | 10.0D | 87.0 | | | QL=1 ST=2 TYP=2 | |
| 610 | SGMR | 20 GRF | 1050.0E | 1052.0 | 8.0D | 62.0 | | | QL=1 ST=2 TYP=2 | |
| 245 | SGMR | 20 GRF | 1051.0E | 1052.0 | 2.0D | 100.0 | | | QL=1 ST=2 TYP=2 | |
| 100 | GORK | 41 F | 1102.1 | 1129.0 | | 760.0 | | | | |
| 100 | GORK | 41 F | 1102.1 | 1116.9 | 30.9 | 940.0 | | | | |
| 245 | SVTO | 49 GB | 1135.0E | 1135.0 | U | 610.0 | | | QL=1 ST=2 TYP=6 | |
| 100 | GORK | 4 S/F | 1149.3 | 1152.3 | 3.7 | 780.0 | | | | |
| 100 | GORK | 47 GB | 1156.2 | 1202.3 | | 8200.0 | | | | |
| 100 | GORK | 47 GB | 1156.2 | 1158.5 | 8.0 | 8000.0 | | | | |
| 2800 | OTTA | 26 FAL | 1200.0 | 1200.0 | 105.0 | 15.9 | 8.0 | | | |
| 410 | SVTO | 8 S | 1202.0E | 1203.0 | 1.0D | 360.0 | | | QL=1 ST=2 TYP=3 | |
| 5900 | KISV | 4 S/F | 1202.7 | 1203.4 | 3.0 | 70.0 | | | | |
| 9300 | KISV | 4 S/F | 1202.8 | 1203.4 | 2.9 | 77.0 | | | | |
| 410 | SGMR | 49 GB | 1203.0E | 1203.0 | U | 550.0 | | | QL=1 ST=3 TYP=6 | |

90
Jun 89

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

JUNE 1989

| Day | Freq | Sta | Type | Start (UT) | Time of Maximum (UT) | Duration (Min) | Flux Density | | Int | Remarks |
|------|-------|--------|--------|------------|----------------------|----------------|-----------------------------------|------|-----|-----------------|
| | | | | | | | Peak (10 -22 W/m ² Hz) | Mean | | |
| 16 | 610 | SGMR | 8 S | 1203.0E | 1204.0 | 1.00 | 82.0 | | | QL=1 ST=2 TYP=3 |
| | 4995 | SGMR | 8 S | 1203.0E | 1203.0 | 2.00 | 46.0 | | | QL=1 ST=3 TYP=3 |
| | 245 | SGMR | 49 GB | 1203.0E | 1203.0 | U | 700.0 | | | QL=1 ST=3 TYP=6 |
| | 8800 | SGMR | 8 S | 1203.0E | 1203.0 | U | 67.0 | | | QL=1 ST=3 TYP=3 |
| | 15000 | KISV | 45 C | 1203.0 | 1203.2 | | 46.0 | | | |
| | 8400 | BERN | 3 S | 1203.0 | 1203.3 | 1.0 | 45.0 | | | |
| | 11800 | BERN | 3 S | 1203.0 | 1203.3 | 1.0 | 42.0 | | | |
| | 19600 | BERN | 3 S | 1203.0 | 1203.3 | 1.0 | 31.0 | | | |
| | 5200 | BERN | 3 S | 1203.0 | 1203.3 | 1.0 | 30.0 | | | |
| | 15000 | KISV | 45 C | 1203.0 | 1203.4 | 1.1 | 47.0 | | | |
| | 3100 | CRIM | 1 S | 1203.0 | 1203.5 | 1.0 | 19.0 | 6.0 | | |
| | 33 | UPIC | 45 C | 1203.1 | 1205.3 | 2.4 | | | | |
| | 1470 | POTS | 29 PBI | 1221.0 | 1223.7 | 49.0 | | | | |
| | 19600 | BERN | 4 S/F | 1222.3 | 1223.4 | 2.0 | 22.0 | | | |
| | 5200 | BERN | 4 S/F | 1222.3 | 1223.4 | 2.0 | 38.0 | | | |
| | 11800 | BERN | 4 S/F | 1222.3 | 1223.4 | 2.0 | 26.0 | | | |
| | 3200 | BERN | 4 S/F | 1222.3 | 1223.4 | 2.0 | 58.0 | | | |
| | 8400 | BERN | 4 S/F | 1222.3 | 1223.4 | 2.0 | 24.0 | | | |
| | 5900 | KISV | 4 S/F | 1222.5 | 1223.5 | 2.9 | 44.0 | | | |
| | 9500 | POTS | 29 PBI | 1222.5 | 1223.5 | 18.0 | 56.0 | | | |
| | 3000 | POTS | 29 PBI | 1222.5 | 1223.7 | 13.0 | 69.0 | | | |
| | 9300 | KISV | 4 S/F | 1222.6 | 1223.4 | 2.4 | 38.0 | | | |
| | 15000 | KISV | 4 S/F | 1222.6 | 1223.5 | 3.1 | 77.0 | | | |
| | 3100 | CRIM | 3 S | 1222.8 | 1223.7 | 22.0 | 74.0 | 11.0 | | |
| | 2800 | OTTA | 3 S | 1223.0 | 1224.0 | 10.0 | 34.0 | 8.0 | | |
| | 8800 | SGMR | 8 S | 1223.0E | 1223.0 | 1.00 | 39.3 | | | QL=1 ST=3 TYP=3 |
| | 8800 | SVTO | 8 S | 1223.0E | 1223.0 | 1.00 | 89.0 | | | QL=1 ST=2 TYP=3 |
| | 33 | UPIC | 45 C | 1326.5 | 1327.4 | 1.8 | 80.0 | | | |
| | 2800 | OTTA | 22 GRF | 1452.0 | 1522.0 | 100.0 | 15.9 | 8.0 | | |
| | 2800 | OTTA | 24 R | 1643.0 | 1725.0 | 137.0 | 19.0 | 13.0 | | |
| | 2800 | OTTA | 4 S/F | 1656.0 | 1657.0 | 4.0 | 12.7 | 5.0 | | |
| | 2800 | OTTA | 4 S/F | 1701.0 | 1703.0 | 5.0 | 36.7 | 11.0 | | |
| | 245 | SVTO | 49 GB | 1734.0E | 1734.0 | U | 400.0 | | | QL=1 ST=2 TYP=6 |
| | 245 | PALE | 49 GB | 1857.0E | 1857.0 | U | 370.0 | | | QL=1 ST=2 TYP=6 |
| | 2800 | OTTA | 3 S | 1900.0 | 1902.0 | 5.0 | 44.4 | 13.0 | | |
| | 4995 | SGMR | 4 S/F | 1900.0E | 1901.0 | 8.00 | 130.0 | | | QL=1 ST=2 TYP=3 |
| | 15400 | SGMR | 4 S/F | 1901.0E | 1901.0 | 7.00 | 110.0 | | | QL=1 ST=2 TYP=3 |
| | 8800 | SGMR | 20 GRF | 1901.0E | 1901.0 | 7.00 | 210.0 | | | QL=1 ST=2 TYP=2 |
| | 8800 | PALE | 4 S/F | 1903.0E | 1907.0 | 7.00 | 99.0 | | | QL=1 ST=2 TYP=5 |
| | 2800 | OTTA | 29 PBI | 1905.0 | 1905.0 | 120.0 | 21.6 | 11.0 | | |
| | 245 | PALE | 8 S | 1915.0E | 1915.0 | 1.00 | 320.0 | | | QL=1 ST=2 TYP=3 |
| | 200 | HIRA | 42 SER | 2357.0 | 2554.0 | 178.0 | 320.0 | | | SL |
| 17 | 100 | GORK | 44 NS | 0239.0E | | 411.00 | | 5.0 | | QL=1 ST=3 TYP=1 |
| | 245 | SVTO | 44 NS | 0503.0E | 0538.0 | 79.00 | 220.0 | | | |
| | 260 | ONDR | 44 NS | 0530.0E | 0651.8 | 620.00 | | | | |
| | 204 | IZMI | 43 NS | 0600.0 | | 360.0 | 30.0 | | | |
| | 234 | POTS | 44 NS | 0600.0E | 1254.0 | 552.00 | 45.0 | | | |
| | 127 | TORN | 43 NS | 0720.0 | | 472.0 | | 12.0 | | V=1 |
| | 245 | SGMR | 44 NS | 1015.0E | 1048.0 | 96.00 | 140.0 | | | QL=1 ST=2 TYP=1 |
| | 245 | SGMR | 44 NS | 1241.0E | 1621.0 | 580.00 | 380.0 | | | QL=1 ST=3 TYP=1 |
| | 245 | PALE | 44 NS | 1629.0E | 1857.0 | 748.00 | 450.0 | | | QL=1 ST=2 TYP=1 |
| | 410 | SGMR | 44 NS | 1647.0E | 1720.0 | 174.00 | 130.0 | | | QL=1 ST=3 TYP=1 |
| | 410 | SVTO | 43 NS | 1648.0 | 1721.0 | 70.0 | 79.0 | | | QL=1 ST=2 TYP=1 |
| | 245 | SVTO | 43 NS | 1651.0 | 1721.0 | 67.0 | 150.0 | | | QL=1 ST=2 TYP=1 |
| | 245 | PALE | 44 NS | 1703.0E | 2053.0 | 715.00 | 240.0 | | | QL=1 ST=2 TYP=1 |
| | 200 | HIRA | 44 NS | 1925.0E | 0237.0 | 860.00 | 90.0 | 46.0 | | MR |
| | 410 | PALE | 8 S | 0131.0E | 0131.0 | U | 280.0 | | | QL=1 ST=2 TYP=3 |
| | 9100 | GORK | 21 GRF | 0254.0E | 0438.6 | 398.00 | 43.0 | | | |
| | 650 | GORK | 23 GRF | 0307.1 | 0324.9 | 271.4 | 11.0 | | | |
| | 950 | GORK | 22 GRF | 0312.6 | 0318.1 | 11.4 | 5.0 | | | |
| | 245 | LEAR | 8 S | 0321.0E | 0322.0 | 1.00 | 230.0 | | | QL=1 ST=2 TYP=3 |
| | 245 | PALE | 8 S | 0321.0E | 0322.0 | 1.00 | 350.0 | | | QL=1 ST=2 TYP=3 |
| | 9300 | KISV | 22 GRF | 0400.0 | 0919.7 | 600.0 | 26.0 | | | |
| | 9100 | GORK | 2 S/F | 0422.1 | 0423.0 | 2.5 | 16.0 | | | |
| | 15000 | KISV | 2 S/F | 0435.1 | 0438.7 | 5.5 | 15.0 | | | |
| | 9300 | KISV | 2 S/F | 0435.2 | 0438.7 | 3.6 | 13.0 | | | |
| 5900 | KISV | 22 GRF | 0435.3 | 0438.7 | 11.4 | 14.0 | | | | |
| 650 | GORK | 4 S/F | 0438.4 | 0438.6 | 2.1 | 41.0 | | | | |

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

91
Jun 89

JUNE 1989

| 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 | 950 | GORK | 1 S | 0438.5 | 0439.2 | 0.8 | 2.0 | | | |
| | 950 | GORK | 1 S | 0442.8 | 0443.5 | 2.2 | 1.0 | | | |
| | 2950 | GORK | 1 S | 0443.0 | 0443.4 | 2.0 | 5.0 | | | |
| | 650 | GORK | 4 S/F | 0443.1 | 0443.4 | 0.7 | 27.0 | | | |
| | 9300 | KISV | 2 S/F | 0512.3 | 0513.8 | 2.6 | 14.0 | | | |
| | 15400 | LEAR | 8 S | 0513.0E | 0513.0 | 1.00 | 53.0 | | | QL=1 ST=2 TYP=3 |
| | 15400 | SVTO | 8 S | 0513.0E | 0513.0 | 1.00 | 61.0 | | | QL=1 ST=2 TYP=3 |
| | 9100 | GORK | 1 S | 0513.4 | 0513.7 | 1.1 | 10.0 | | | |
| | 15000 | KISV | 4 S/F | 0513.4 | 0513.8 | 1.6 | 55.0 | | | |
| | 100 | GORK | 41 F | 0537.7 | 0549.1 | | 70.0 | | | |
| | 100 | GORK | 41 F | 0537.7 | 0600.2 | | 543.0 | | | |
| | 100 | GORK | 41 F | 0537.7 | 0545.3 | 28.3 | 94.0 | | | |
| | 100 | GORK | 41 F | 0537.7 | 0601.7 | | 401.0 | | | |
| | 200 | HIRA | 46 C | 0617.6 | 0617.8 | 1.5 | 435.0 | | | SL |
| | 100 | GORK | 4 S/F | 0701.7 | 0708.6 | 10.3 | 189.0 | | | |
| | 9300 | KISV | 2 S/F | 0706.5 | 0706.9 | 1.1 | 7.0 | | | |
| | 5900 | KISV | 2 S/F | 0722.8 | 0723.5 | 1.2 | 8.0 | | | |
| | 9300 | KISV | 22 GRF | 0750.2 | 0816.3 | 32.0 | 17.0 | | | |
| | 15000 | KISV | 2 S/F | 0803.8 | 0804.2 | 0.9 | 14.0 | | | |
| | 650 | GORK | 22 GRF | 0808.0 | 0808.9 | 76.00 | 5.0 | | | |
| | 950 | GORK | 22 GRF | 0808.3 | 0816.8 | 22.3 | 2.0 | | | |
| | 9500 | POTS | 20 GRF | 0812.5 | 0817.5 | 18.0 | 11.0 | | | |
| | 5900 | KISV | 2 S/F | 0814.4 | 0814.9 | 1.7 | 6.0 | | | |
| | 9100 | GORK | 1 S | 0850.7 | 0851.0 | 1.1 | 12.0 | | | |
| | 9300 | KISV | 2 S/F | 0850.8 | 0851.1 | 1.4 | 12.0 | | | |
| | 536 | ONDR | 41 F | 0905.7 | 0915.8 | 20.5 | 21.0 | | | |
| | 9300 | KISV | 46 C | 0908.9 | 0910.4 | 3.7 | 6.0 | | | |
| | 810 | KRAK | 8 S | 0937.2 | 0937.3 | 0.3 | 9.0 | | | |
| | 11800 | BERN | 3 S | 0940.0 | 0944.0 | 8.0 | 30.0 | | | |
| | 8400 | BERN | 3 S | 0940.0 | 0944.0 | 8.0 | 25.0 | | | |
| | 5200 | BERN | 3 S | 0940.0 | 0944.0 | 8.0 | 10.0 | | | |
| | 3200 | BERN | 3 S | 0940.0 | 0944.0 | 8.0 | 9.0 | | | |
| | 3000 | POTS | 20 GRF | 0940.0 | 0943.0 | 20.0 | 11.0 | | | |
| | 9500 | POTS | 21 GRF | 0940.0 | 0943.8 | 18.0 | 24.0 | | | |
| | 5900 | KISV | 45 C | 0940.3 | 0943.5 | 7.3 | 27.0 | | | |
| | 3013 | IZMI | 40 F | 0940.5 | 0943.5 | 6.5 | 11.0 | 5.0 | | |
| | 3100 | CRIM | 1 S | 0940.7 | 0943.4 | 6.0 | 9.0 | 3.0 | | |
| | 9300 | KISV | 46 C | 0940.7 | 0943.9 | 7.0 | 28.0 | | | |
| | 1470 | POTS | 21 GRF | 0941.0 | 0942.7 | 24.0 | 12.0 | | | |
| | 15000 | KISV | 46 C | 0941.1 | 0947.1 | | 16.0 | | | |
| | 15000 | KISV | 46 C | 0941.1 | 0943.8 | 6.9 | 19.0 | | | |
| | 9300 | KISV | 23 GRF | 0951.6 | 0951.9 | 10.3 | 10.0 | | | |
| | 9300 | KISV | 28 PRE | 1002.5 | 1008.1 | 23.1 | 9.0 | | | |
| | 5900 | KISV | 45 C | 1014.3 | 1016.1 | 6.2 | 17.0 | | | |
| | 5900 | KISV | 45 C | 1014.3 | 1017.5 | | 15.0 | | | |
| | 9300 | KISV | 45 C | 1014.7 | 1017.4 | 8.5 | 31.0 | | | |
| | 15000 | KISV | 46 C | 1014.8 | 1017.5 | 4.2 | 21.0 | | | |
| | 9500 | POTS | 4 S/F | 1015.0 | 1017.4 | 7.0 | 26.0 | | | |
| | 1470 | POTS | 3 S | 1015.0 | 1017.5 | 5.0 | 10.0 | | | |
| | 3000 | POTS | 3 S | 1015.0 | 1017.5 | 12.0 | 21.0 | | | |
| 3013 | IZMI | 5 S | 1015.3 | 1017.3 | 5.0 | 26.0 | 13.0 | | | |
| 33 | UPIC | 45 C | 1015.6 | 1016.1 | 1.9 | | | | | |
| 808 | ONDR | 41 F | 1015.6 | 1017.9 | 4.0 | 8.0 | | | | |
| 204 | IZMI | 5 S | 1015.7 | 1016.0 | 0.4 | 250.0 | 150.0 | | | |
| 3100 | CRIM | 1 S | 1015.7 | 1017.4 | 5.0 | 27.0 | 9.0 | | | |
| 810 | KRAK | 42 SER | 1015.8 | 1019.0 | 3.2 | 29.0 | | | | |
| 536 | ONDR | 42 SER | 1131.3 | 1132.5 | 1.5 | 40.0 | | | | |
| 9300 | KISV | 2 S/F | 1140.2 | 1140.9 | 1.0 | 8.0 | | | | |
| 810 | KRAK | 8 S | 1144.1 | 1144.5 | 0.6 | 59.0 | | | | |
| 5900 | KISV | 45 C | 1148.7 | 1150.4 | 7.2 | 20.0 | | | | |
| 5900 | KISV | 45 C | 1148.7 | 1150.7 | | 19.0 | | | | |
| 2695 | SGMR | 8 S | 1149.0E | 1150.0 | 1.00 | 57.0 | | | QL=1 ST=2 TYP=3 | |
| 3100 | CRIM | 4 S/F | 1149.0 | 1150.3 | 2.0 | 118.0 | | | | |
| 3000 | POTS | 40 F | 1149.0 | 1150.5U | 2.0U | 62.0 | | | | |
| 1470 | POTS | 1 S | 1149.4 | 1150.3 | 2.6 | 5.0 | | | | |
| 3013 | IZMI | 7 C | 1149.5 | 1150.3 | 1.5 | 55.0 | 20.0 | | | |
| 9300 | KISV | 2 S/F | 1149.6 | 1150.5 | 8.0 | 11.0 | | | | |
| 9300 | KISV | 2 S/F | 1204.0 | 1204.2 | 2.9 | 5.0 | | | | |
| 5900 | KISV | 20 GRF | 1307.9 | 1311.3 | 7.4 | 15.0 | | | | |

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

JUNE 1989

| 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 | 536 | ONDR | 42 SER | 1347.8 | 1348.1 | 0.5 | 13.0 | | | |
| | 600 | HUMN | 27 RF | 1537.0 | 1646.0 | 113.0 | 100.0 | 22.0 | | |
| | 2800 | OTTA | 4 S/F | 1544.5 | 1602.5 | 22.8 | 352.6 | 105.0 | | |
| | 35000 | BERN | 46 C | 1552.0 | 1604.0 | 45.0 | 69.0 | | | |
| | 5200 | BERN | 46 C | 1552.0 | 1604.0 | 45.0 | 184.0 | | | |
| | 11800 | BERN | 46 C | 1552.0 | 1604.0 | 45.0 | 131.0 | | | |
| | 19600 | BERN | 46 C | 1552.0 | 1604.0 | 45.0 | 77.0 | | | |
| | 3200 | BERN | 46 C | 1552.0 | 1604.0 | 45.0 | 192.0 | | | |
| | 8400 | BERN | 46 C | 1552.0 | 1604.0 | 45.0 | 164.0 | | | |
| | 4995 | SGMR | 20 GRF | 1553.0E | 1601.0 | 8.00 | 270.0 | | | QL=1 ST=2 TYP=2 |
| | 1415 | SVTO | 49 GB | 1553.0E | 1559.0 | 487.00 | 770.0 | | | QL=1 ST=1 TYP=7 |
| | 1415 | SGMR | 49 GB | 1554.0E | 1559.0 | 7.00 | 1000.0 | | | QL=1 ST=2 TYP=7 |
| | 4995 | SVTO | 4 S/F | 1554.0E | 1602.0 | 486.00 | 280.0 | | | QL=1 ST=1 TYP=3 |
| | 8800 | SVTO | 4 S/F | 1554.0E | 1602.0 | 486.00 | 200.0 | | | QL=1 ST=1 TYP=3 |
| | 2695 | SVTO | 4 S/F | 1554.0E | 1602.0 | 486.00 | 330.0 | | | QL=1 ST=1 TYP=3 |
| | 8800 | SGMR | 20 GRF | 1555.0E | 1601.0 | 6.00 | 160.0 | | | QL=1 ST=2 TYP=2 |
| | 410 | SGMR | 4 S/F | 1555.0E | 1558.0 | 6.00 | 290.0 | | | QL=1 ST=2 TYP=5 |
| | 610 | SVTO | 20 GRF | 1558.0E | 1604.0 | 482.00 | 69.0 | | | QL=1 ST=1 TYP=2 |
| | 245 | SGMR | 8 S | 1559.0E | 1600.0 | 2.00 | 220.0 | | | QL=1 ST=2 TYP=3 |
| | 610 | SGMR | 20 GRF | 1601.0E | 1604.0 | 5.00 | 81.0 | | | QL=1 ST=2 TYP=2 |
| | 410 | SGMR | 20 GRF | 1601.0E | 1602.0 | 5.00 | 150.0 | | | QL=1 ST=2 TYP=2 |
| | 2695 | SGMR | 20 GRF | 1601.0E | 1602.0 | 5.00 | 350.0 | | | QL=1 ST=2 TYP=2 |
| | 1415 | SGMR | 20 GRF | 1601.0E | 1604.0 | 5.00 | 140.0 | | | QL=1 ST=2 TYP=2 |
| | 4995 | SGMR | 20 GRF | 1601.0E | 1602.0 | 5.00 | 380.0 | | | QL=1 ST=2 TYP=2 |
| | 245 | SGMR | 20 GRF | 1601.0E | 1604.0 | 5.00 | 270.0 | | | QL=1 ST=2 TYP=2 |
| | 8800 | SGMR | 20 GRF | 1601.0E | 1602.0 | 5.00 | 250.0 | | | QL=1 ST=2 TYP=2 |
| | 15400 | SGMR | 20 GRF | 1602.0E | 1602.0 | 2.00 | 62.0 | | | QL=1 ST=2 TYP=2 |
| | 2800 | OTTA | 4 S/F | 1607.3 | 1611.2 | 13.0 | 76.9 | 23.0 | | |
| | 1415 | SGMR | 4 S/F | 1608.0E | 1610.0 | 7.00 | 79.0 | | | QL=1 ST=2 TYP=3 |
| | 610 | SGMR | 4 S/F | 1608.0E | 1612.0 | 10.00 | 160.0 | | | QL=1 ST=2 TYP=3 |
| | 410 | SGMR | 4 S/F | 1608.0E | 1610.0 | 10.00 | 160.0 | | | QL=1 ST=2 TYP=3 |
| | 4995 | SGMR | 4 S/F | 1608.0E | 1611.0 | 10.00 | 180.0 | | | QL=1 ST=2 TYP=3 |
| | 245 | SGMR | 49 GB | 1608.0E | 1610.0 | 10.00 | 510.0 | | | QL=1 ST=2 TYP=6 |
| | 2695 | SGMR | 4 S/F | 1608.0E | 1611.0 | 10.00 | 140.0 | | | QL=1 ST=2 TYP=3 |
| | 8800 | SGMR | 20 GRF | 1608.0E | 1610.0 | 10.00 | 180.0 | | | QL=1 ST=2 TYP=2 |
| | 15400 | SGMR | 4 S/F | 1610.0E | 1613.0 | 8.00 | 65.0 | | | QL=1 ST=2 TYP=3 |
| | 610 | SVTO | 4 S/F | 1611.0E | 1612.0 | 469.00 | 100.0 | | | QL=1 ST=1 TYP=3 |
| | 33 | UPIC | 45 C | 1611.0 | 1611.9 | 2.0 | | | | |
| | 2800 | OTTA | 29 PBI | 1620.2 | 1620.2 | 170.0 | 51.3 | 15.0 | | |
| | 245 | PALE | 49 GB | 1628.0E | 1634.0 | 35.00 | 550.0 | | | QL=1 ST=2 TYP=6 |
| | 410 | PALE | 4 S/F | 1628.0E | 1635.0 | 33.00 | 150.0 | | | QL=1 ST=2 TYP=5 |
| | 1415 | SGMR | 4 S/F | 1632.0E | 1632.0 | 4.00 | 110.0 | | | QL=1 ST=2 TYP=3 |
| | 245 | SGMR | 4 S/F | 1632.0E | 1634.0 | 3.00 | 420.0 | | | QL=1 ST=2 TYP=3 |
| | 610 | PALE | 4 S/F | 1633.0E | 1635.0 | 3.00 | 67.0 | | | QL=1 ST=2 TYP=3 |
| | 2695 | SGMR | 8 S | 1634.0E | 1634.0 | U | 75.0 | | | QL=1 ST=2 TYP=3 |
| 2800 | OTTA | 4 S/F | 1718.0 | 1721.0 | 13.0 | 44.9 | 13.0 | | | |
| 410 | PALE | 4 S/F | 1719.0E | 1720.0 | 4.00 | 160.0 | | | QL=1 ST=2 TYP=3 | |
| 8800 | PALE | 8 S | 1720.0E | 1720.0 | 1.00 | 69.0 | | | QL=1 ST=2 TYP=3 | |
| 610 | PALE | 8 S | 1720.0E | 1720.0 | 1.00 | 170.0 | | | QL=1 ST=2 TYP=3 | |
| 2695 | PALE | 8 S | 1720.0E | 1720.0 | 1.00 | 60.0 | | | QL=1 ST=2 TYP=3 | |
| 610 | SGMR | 8 S | 1720.0E | 1720.0 | 2.00 | 170.0 | | | QL=1 ST=2 TYP=3 | |
| 410 | SGMR | 8 S | 1720.0E | 1720.0 | 1.00 | 150.0 | | | QL=1 ST=2 TYP=3 | |
| 500 | HIRA | 46 C | 2256.5 | 2257.7 | 2.3 | 370.0 | | | WR | |
| 18 | 245 | LEAR | 43 NS | 0120.0 | 0604.0 | 489.0 | 240.0 | | | QL=1 ST=2 TYP=1 |
| | 100 | GORK | 44 NS | 0240.0E | | 410.00 | | 8.0 | | |
| | 245 | SVTO | 44 NS | 0415.0E | 0604.0 | 342.00 | 230.0 | | | QL=1 ST=2 TYP=1 |
| | 410 | LEAR | 44 NS | 0424.0E | 0431.0 | 63.00 | 80.0 | | | QL=1 ST=2 TYP=1 |
| | 410 | SVTO | 44 NS | 0438.0E | 0438.0 | 92.00 | 90.0 | | | QL=1 ST=3 TYP=1 |
| | 260 | ONDR | 44 NS | 0540.0E | 0720.0 | 610.00 | | | | |
| | 204 | IZMI | 43 NS | 0600.0 | | 360.0 | 50.0 | | | |
| | 234 | POTS | 44 NS | 0600.0E | 0738.0 | 505.00 | 90.0 | | | |
| | 127 | TORN | 44 NS | 0620.0E | | 560.00 | | 14.0 | | V=1 |
| | 430 | KRAK | 44 NS | 0717.7E | 0841.2 | 352.00 | 54.0 | 9.0 | | |
| | 245 | SGMR | 44 NS | 0940.0E | 1628.0 | 859.00 | 390.0 | | | QL=1 ST=2 TYP=1 |
| | 200 | HIRA | 44 NS | 1925.0E | 2300.0 | 610.00 | 74.0 | 28.0 | | MR |
| | 410 | PALE | 8 S | 0021.0E | 0024.0 | U | 110.0 | | | QL=1 ST=2 TYP=3 |
| | 2840 | PEKG | 20 GRF | 0102.0 | 0117.6 | 27.0 | 13.4 | | | |
| | 245 | LEAR | 8 S | 0119.0E | 0120.0 | 1.00 | 61.0 | | | QL=1 ST=2 TYP=3 |

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

93
Jun 89

JUNE 1989

| Day | Freq | Sta | Type | Start (UT) | Time of Maximum (UT) | Duration (Min) | Flux Density Peak (10 ⁻²² W/m ² Hz) | Flux Density Mean (W/m ² Hz) | Int | Remarks |
|-----|-------|------|--------|------------|----------------------|----------------|---|---|-----|-----------------|
| 18 | 2840 | PEKG | 3 S | 0208.0 | 0209.3 | 3.0 | 78.0 | | | |
| | 2695 | LEAR | 8 S | 0209.0E | 0209.0 | 1.0D | 56.0 | | | QL=1 ST=2 TYP=3 |
| | 4995 | LEAR | 8 S | 0209.0E | 0209.0 | 1.0D | 33.0 | | | QL=1 ST=2 TYP=3 |
| | 9100 | GORK | 21 GRF | 0337.1 | 0543.0 | 125.9 | 28.0 | | | |
| | 245 | PALE | 8 S | 0415.0E | 0415.0 | 1.0D | 160.0 | | | QL=1 ST=2 TYP=3 |
| | 500 | HIRA | 27 RF | 0430.0 | 0449.0 | 83.0 | 10.0 | 5.0 | | WL |
| | 650 | GORK | 23 GRF | 0433.1 | 0451.0 | 85.4 | 7.0 | | | |
| | 9300 | KISV | 28 PRE | 0453.0 | 0524.0 | 33.7 | 6.0 | | | |
| | 9300 | KISV | 46 C | 0526.7 | 0543.0 | | 31.0 | | | |
| | 9300 | KISV | 46 C | 0526.7 | 0555.5 | | 35.0 | | | |
| | 9300 | KISV | 29 PBI | 0526.7 | 0611.5 | 67.6 | 10.0 | | | |
| | 9300 | KISV | 46 C | 0526.7 | 0527.6 | | 23.0 | | | |
| | 9300 | KISV | 46 C | 0526.7 | 0548.9 | | 33.0 | | | |
| | 9300 | KISV | 46 C | 0526.7 | 0533.9U | 44.8 | 147.0D | | | |
| | 9100 | GORK | 1 S | 0526.9 | 0527.3 | 2.9 | 16.0 | | | |
| | 15000 | KISV | 45 C | 0526.9 | 0527.4 | 1.1 | 7.0 | | | |
| | 650 | GORK | 46 C | 0533.0 | 0540.0 | | 14.0 | | | |
| | 4995 | LEAR | 4 S/F | 0533.0E | 0533.0 | 4.0D | 86.0 | | | QL=1 ST=2 TYP=3 |
| | 15400 | LEAR | 4 S/F | 0533.0E | 0533.0 | 3.0D | 110.0 | | | QL=1 ST=2 TYP=3 |
| | 1415 | LEAR | 8 S | 0533.0E | 0533.0 | 1.0D | 29.0 | | | QL=1 ST=2 TYP=3 |
| | 2695 | LEAR | 4 S/F | 0533.0E | 0533.0 | 3.0D | 85.0 | | | QL=1 ST=2 TYP=3 |
| | 8800 | LEAR | 4 S/F | 0533.0E | 0533.0 | 4.0D | 120.0 | | | QL=1 ST=2 TYP=3 |
| | 8800 | SVTO | 4 S/F | 0533.0E | 0533.0 | 3.0D | 120.0 | | | QL=1 ST=2 TYP=3 |
| | 15400 | SVTO | 8 S | 0533.0E | 0533.0 | 1.0D | 120.0 | | | QL=1 ST=2 TYP=3 |
| | 2695 | SVTO | 4 S/F | 0533.0E | 0533.0 | 1107.0D | 79.0 | | | QL=1 ST=1 TYP=3 |
| | 650 | GORK | 46 C | 0533.0 | 0533.2 | 7.7 | 46.0 | | | |
| | 650 | GORK | 46 C | 0533.0 | 0536.6 | | 13.0 | | | |
| | 2840 | PEKG | 3 S | 0533.0 | 0533.8 | 5.0 | 94.4 | | | |
| | 3100 | CRIM | 3 S | 0533.1 | 0534.0 | 6.0 | 72.0 | 24.0 | | |
| | 8400 | BERN | 46 C | 0533.1 | 0533.5 | 2.5 | 80.0 | | | |
| | 3200 | BERN | 46 C | 0533.1 | 0533.5 | 2.5 | 48.0 | | | |
| | 5200 | BERN | 46 C | 0533.1 | 0533.5 | 2.5 | 51.0 | | | |
| | 11800 | BERN | 46 C | 0533.1 | 0533.5 | 2.5 | 107.0 | | | |
| | 9100 | GORK | 4 S/F | 0533.1 | 0533.7 | 6.6 | 131.0 | | | |
| | 950 | GORK | 2 S/F | 0533.2 | 0534.0 | 3.1 | 5.0 | | | |
| | 15000 | KISV | 4 S/F | 0533.2 | 0533.6 | 11.5 | 104.0D | | | |
| | 2950 | GORK | 46 C | 0533.3 | 0533.5 | 5.5 | 68.0 | | | |
| | 2950 | GORK | 46 C | 0533.3 | 0533.8 | | 73.0 | | | |
| | 15000 | KISV | 46 C | 0554.9 | 0555.6 | 1.7 | 10.0 | | | |
| | 650 | GORK | 23 GRF | 0614.2 | 0751.0 | 195.8D | 6.0 | | | |
| | 9300 | KISV | 46 C | 0622.3 | 0622.8 | 4.0 | 4.0 | | | |
| | 2950 | GORK | 1 S | 0625.4 | 0625.7 | 0.8 | 5.0 | | | |
| | 950 | GORK | 1 S | 0625.4 | 0625.8 | 1.6 | 1.0 | | | |
| | 5900 | KISV | 20 GRF | 0634.3E | | 5.3D | 55.0U | | | |
| | 100 | GORK | 41 F | 0721.4 | 0734.5 | | 2700.0 | | | |
| | 100 | GORK | 41 F | 0721.4 | 0728.7 | | 360.0 | | | |
| | 100 | GORK | 41 F | 0721.4 | 0737.7 | | 2280.0 | | | |
| | 100 | GORK | 41 F | 0721.4 | 0724.9 | 19.4 | 480.0 | | | |
| | 536 | ONDR | 42 SER | 0723.3 | 0843.9 | 100.0 | 19.0 | | | |
| | 127 | TORN | 45 C | 0737.3 | 0738.3 | 3.0 | 750.0 | 180.0 | | |
| | 950 | GORK | 2 S/F | 0738.0 | 0739.0 | 1.9 | 3.0 | | | |
| | 33 | UPIC | 46 C | 0738.1 | 0739.9 | 2.5 | | | | |
| | 1415 | LEAR | 8 S | 0743.0E | 0743.0 | 1.0D | 81.0 | | | QL=1 ST=2 TYP=3 |
| | 1415 | SVTO | 8 S | 0743.0E | 0743.0 | 1.0D | 77.0 | | | QL=1 ST=2 TYP=3 |
| | 950 | GORK | 4 S/F | 0743.5 | 0743.8 | 0.5 | 27.0 | | | |
| | 808 | ONDR | 1 S | 0743.5 | 0743.8 | 1.0 | 5.0 | | | |
| | 1470 | POTS | 8 S | 0743.5 | 0743.8 | 0.8 | 63.0 | | | |
| | 650 | GORK | 4 S/F | 0743.6 | 0743.8 | 0.3 | 19.0 | | | |
| | 410 | LEAR | 8 S | 0747.0E | 0747.0 | 1.0D | 50.0 | | | QL=1 ST=2 TYP=3 |
| | 5900 | KISV | 45 C | 0808.2 | 0809.0 | 2.5 | 12.0 | | | |
| | 9300 | KISV | 2 S/F | 0808.3 | 0808.8 | 2.0 | 8.0 | | | |
| | 15000 | KISV | 45 C | 0808.7 | 0809.0 | 2.5 | 15.0 | | | |
| | 536 | ONDR | 42 SER | 1056.6 | 1057.8 | 8.8 | 13.0 | | | |
| | 810 | KRAK | 4 S/F | 1211.5 | 1213.5 | 4.0 | 47.0 | 20.0 | | |
| | 1415 | SGMR | 4 S/F | 1212.0E | 1213.0 | 3.0D | 120.0 | | | QL=1 ST=2 TYP=3 |
| | 1415 | SVTO | 8 S | 1212.0E | 1213.0 | 1.0D | 110.0 | | | QL=1 ST=2 TYP=3 |
| | 3000 | POTS | 42 SER | 1212.0 | 1219.3 | 12.0 | 28.0 | | | |
| | 1470 | POTS | 4 S/F | 1212.0 | 1213.5 | 3.0 | 109.0 | | | |
| | 536 | ONDR | 7 C | 1212.0 | 1212.6 | 25.0 | 12.0 | | | |

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

JUNE 1989

| Day | Freq | Sta | Type | Start (UT) | Time of Maximum (UT) | Duration (Min) | Flux Density | | Int | Remarks | |
|------|-------|--------|---------|------------|----------------------|----------------|------------------------|-------|-----------------|-----------------|-----------------|
| | | | | | | | Peak (10 -22 W/m 2 Hz) | Mean | | | |
| 18 | 808 | ONDR | 40 F | 1212.2 | 1213.4 | 4.0 | 42.0 | | | | |
| | 9300 | KISV | 2 S/F | 1212.5 | 1213.0 | 3.5 | 9.0 | | | | |
| | 245 | SGMR | 8 S | 1213.0E | 1213.0 | 2.00 | 60.0 | | | QL=1 ST=2 TYP=3 | |
| | 430 | KRAK | 2 S/F | 1213.0 | 1213.6 | 1.5 | 18.0 | 5.0 | | | |
| | 5900 | KISV | 4 S/F | 1217.6 | 1219.4 | 2.3 | 44.0 | | | | |
| | 9300 | KISV | 2 S/F | 1217.8 | 1219.4 | 5.8 | 11.0 | | | | |
| | 536 | ONDR | 4 S/F | 1414.5 | 1414.8 | 6.0 | 124.0 | | | | |
| | 127 | TORN | 42 SER | 1442.5 | 1448.5 | 13.5 | 600.00 | 30.0 | | | |
| | 2800 | OTTA | 3 S | 1445.0 | 1446.5 | 7.0 | 34.4 | 10.0 | | | |
| | 245 | SVTO | 8 S | 1449.0E | 1449.0 | 1.00 | 170.0 | | | QL=1 ST=2 TYP=3 | |
| | 33 | UPIC | 48 C | 1454.0 | | 6.3 | | | | | |
| | 5200 | BERN | 3 S | 1618.4 | 1619.4 | 3.0 | 24.0 | | | | |
| | 11800 | BERN | 3 S | 1618.4 | 1619.4 | 3.0 | 38.0 | | | | |
| | 19600 | BERN | 3 S | 1618.4 | 1619.4 | 3.0 | 16.0 | | | | |
| | 8400 | BERN | 3 S | 1618.4 | 1619.4 | 3.0 | 48.0 | | | | |
| | 8800 | SGMR | 8 S | 1619.0E | 1619.0 | 1.00 | 71.0 | | | QL=1 ST=2 TYP=3 | |
| | 245 | PALE | 4 S/F | 1626.0E | 1628.0 | 3.00 | 250.0 | | | QL=1 ST=2 TYP=3 | |
| | 245 | PALE | 8 S | 1627.0E | 1628.0 | 2.00 | 250.0 | | | QL=1 ST=3 TYP=3 | |
| | 245 | SVTO | 8 S | 1627.0E | 1628.0 | 1.00 | 300.0 | | | QL=1 ST=2 TYP=3 | |
| | 245 | PALE | 8 S | 1701.0E | 1702.0 | 1.00 | 250.0 | | | QL=1 ST=2 TYP=3 | |
| | 245 | SGMR | 8 S | 1701.0E | 1702.0 | 1.00 | 320.0 | | | QL=1 ST=2 TYP=3 | |
| | 15400 | SGMR | 8 S | 1859.0E | 1900.0 | 1.00 | 250.0 | | | QL=1 ST=2 TYP=3 | |
| | 8800 | SGMR | 8 S | 1859.0E | 1900.0 | 1.00 | 280.0 | | | QL=1 ST=2 TYP=3 | |
| | 15400 | PALE | 8 S | 1902.0E | 1902.0 | 1.00 | 70.0 | | | QL=1 ST=2 TYP=3 | |
| | 410 | PALE | 8 S | 2048.0E | 2049.0 | 1.00 | 59.0 | | | QL=1 ST=2 TYP=3 | |
| | 500 | HIRA | 46 C | 2342.5 | 2344.5 | 6.5 | 9.0 | | | 0 | |
| | 2695 | PENT | 3 S | 2343.0 | 2344.5 | 9.0 | 77.3 | 23.0 | | | |
| | 2695 | LEAR | 8 S | 2343.0E | 2344.0 | 2.00 | 64.0 | | | QL=1 ST=2 TYP=3 | |
| | 15400 | LEAR | 8 S | 2343.0E | 2344.0 | 2.00 | 41.0 | | | QL=1 ST=2 TYP=3 | |
| | 8800 | LEAR | 8 S | 2343.0E | 2344.0 | 2.00 | 32.0 | | | QL=1 ST=2 TYP=3 | |
| | 1415 | LEAR | 8 S | 2343.0E | 2344.0 | 2.00 | 69.0 | | | QL=1 ST=2 TYP=3 | |
| | 4995 | LEAR | 8 S | 2343.0E | 2344.0 | 2.00 | 54.0 | | | QL=1 ST=2 TYP=3 | |
| | 2695 | PALE | 8 S | 2343.0E | 2344.0 | 1.00 | 84.0 | | | QL=1 ST=2 TYP=3 | |
| | 1415 | PALE | 8 S | 2343.0E | 2344.0 | 2.00 | 76.0 | | | QL=1 ST=2 TYP=3 | |
| | 610 | LEAR | 8 S | 2344.0E | 2344.0 | U | 14.0 | | | QL=1 ST=2 TYP=3 | |
| | 200 | HIRA | 46 C | 2347.3 | 2347.9 | 2.1 | 125.0 | | | WL | |
| | 19 | 245 | LEAR | 43 NS | 0229.0 | 0611.0 | 420.00 | 160.0 | | | QL=1 ST=2 TYP=1 |
| | | 100 | GORK | 44 NS | 0300.0E | | 540.00 | | 6.0 | | |
| | | 245 | SVTO | 44 NS | 0531.0E | 1040.0 | 339.00 | 340.0 | | | QL=1 ST=2 TYP=1 |
| | | 100 | HIRA | 43 NS | 0536.0 | 0717.0 | 246.00 | 380.0 | 110.0 | | |
| 260 | | ONDR | 44 NS | 0540.0E | | 610.00 | | | | | |
| 234 | | POTS | 44 NS | 0550.0E | 0603.5 | 548.00 | 150.0 | | | | |
| 204 | | IZMI | 43 NS | 0600.0 | | 360.0 | 50.0 | | | | |
| 127 | | TORN | 44 NS | 0620.0E | 0745.6 | 560.00 | 8100.0 | 115.0 | | V=1 | |
| 33 | | UPIC | 43 NS | 0700.5 | | 457.0 | | | | | |
| 245 | | SGMR | 44 NS | 0935.0E | 1937.0 | 864.00 | 150.0 | | | QL=1 ST=2 TYP=1 | |
| 245 | | SVTO | 44 NS | 1525.0E | 1527.0 | 22.00 | 130.0 | | | QL=1 ST=2 TYP=1 | |
| 245 | | PALE | 44 NS | 1634.0E | 1828.0 | 369.00 | 97.0 | | | QL=1 ST=2 TYP=1 | |
| 200 | | HIRA | 44 NS | 1925.0E | 0019.0 | 860.00 | 37.0 | 20.0 | | MR | |
| 2840 | | PEKG | 20 GRF | 0038.6 | 0044.5 | 12.9 | 7.5 | | | | |
| 500 | | HIRA | 46 C | 0136.2 | 0139.5 | 5.7 | 260.0 | | | 0 | |
| 410 | | LEAR | 4 S/F | 0137.0E | 0139.0 | 4.00 | 240.0 | | | QL=1 ST=2 TYP=3 | |
| 410 | | PALE | 4 S/F | 0137.0E | 0139.0 | 4.00 | 270.0 | | | QL=1 ST=2 TYP=3 | |
| 610 | | LEAR | 4 S/F | 0138.0E | 0139.0 | 3.00 | 260.0 | | | QL=1 ST=2 TYP=3 | |
| 610 | | PALE | 4 S/F | 0138.0E | 0139.0 | 3.00 | 290.0 | | | QL=1 ST=2 TYP=3 | |
| 9300 | | KISV | 22 GRF | 0400.0 | 1215.5 | 600.0 | 24.0 | | | | |
| 9100 | | GORK | 21 GRF | 0404.3 | 1158.3 | 478.7 | 35.0 | | | | |
| 9300 | | KISV | 2 S/F | 0406.4 | 0407.9 | 2.4 | 7.0 | | | | |
| 9300 | | KISV | 2 S/F | 0430.1 | 0431.1 | 1.8 | 11.0 | | | | |
| 5900 | | KISV | 2 S/F | 0430.5 | 0431.1 | 1.7 | 6.0 | | | | |
| 2840 | | PEKG | 28 PRE | 0507.6 | 0536.2 | 28.9 | 69.1 | | | | |
| 9300 | | KISV | 2 S/F | 0508.9 | 0514.9 | 8.8 | 11.0 | | | | |
| 5900 | | KISV | 2 S/F | 0514.7 | 0514.9 | 0.5 | 7.0 | | | | |
| 2950 | | GORK | 21 GRF | 0524.7 | 0536.0 | 109.5 | 28.0 | | | | |
| 610 | | LEAR | 20 GRF | 0527.0E | 0542.0 | 26.00 | 97.0 | | | QL=1 ST=2 TYP=2 | |
| 600 | | HUMN | 4 S/F | 0527.0 | 0542.0 | 47.0 | 53.0 | 13.0 | | | |
| 410 | LEAR | 20 GRF | 0527.0E | 0542.0 | 41.00 | 63.0 | | | QL=1 ST=2 TYP=2 | | |
| 9300 | KISV | 29 PBI | 0527.1 | 0548.0 | 42.0 | 82.0 | | | | | |

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

95
Jun 89

JUNE 1989

| Day | Freq | Sta | Type | Start (UT) | Time of Maximum (UT) | Duration (Min) | Flux Density | | Int | Remarks | |
|------|-------|--------|---------|------------|----------------------|----------------|------------------------|------|-----|-----------------|-----------------|
| | | | | | | | Peak (10 -22 W/m 2 Hz) | Mean | | | |
| 19 | 9300 | KISV | 45 C | 0527.1 | 0538.5 | | 110.0 | | | | |
| | 9300 | KISV | 45 C | 0527.1 | 0542.5 | 20.9 | 301.0 | | | | |
| | 650 | GORK | 46 C | 0527.4 | 0547.3 | | 97.0 | | | | |
| | 650 | GORK | 46 C | 0527.4 | 0542.5 | 27.4 | 100.0 | | | | |
| | 500 | HIRA | 46 C | 0527.5 | 0542.3 | 74.0 | 92.0 | | | ML | |
| | 2695 | LEAR | 20 GRF | 0528.0E | 0542.0 | 28.00 | 160.0 | | | | QL=1 ST=2 TYP=2 |
| | 3100 | CRIM | 28 PRE | 0529.0 | 0536.0 | 7.0 | 24.0 | 8.0 | | | |
| | 8800 | LEAR | 20 GRF | 0530.0E | 0542.0 | 38.00 | 280.0 | | | | QL=1 ST=2 TYP=2 |
| | 950 | GORK | 46 C | 0530.0 | 0538.0 | 40.8 | 40.0 | | | | |
| | 5900 | KISV | 29 PBI | 0530.0 | 0548.0 | 42.0 | 82.0 | | | | |
| | 4995 | LEAR | 20 GRF | 0530.0E | 0538.0 | 1110.00 | 160.0 | | | | QL=1 ST=1 TYP=2 |
| | 950 | GORK | 46 C | 0530.0 | 0647.2 | | 45.0 | | | | |
| | 950 | GORK | 46 C | 0530.0 | 0642.5 | | 57.0 | | | | |
| | 5900 | KISV | 45 C | 0530.0 | 0538.5 | | 152.0 | | | | |
| | 5900 | KISV | 45 C | 0530.0 | 0542.5 | 18.0 | 346.0 | | | | |
| | 4995 | LEAR | 20 GRF | 0531.0E | 0542.0 | 27.00 | 310.0 | | | | QL=1 ST=2 TYP=2 |
| | 1415 | LEAR | 20 GRF | 0532.0E | 0546.0 | 18.00 | 61.0 | | | | QL=1 ST=2 TYP=2 |
| | 200 | HIRA | 24 R | 0532.0 | 0609.0 | 250.00 | 270.0 | 90.0 | | | MR |
| | 15000 | KISV | 29 PBI | 0533.4 | 0548.0 | 42.0 | 55.0 | | | | |
| | 15000 | KISV | 45 C | 0533.4 | 0538.4 | | 56.0 | | | | |
| | 15000 | KISV | 45 C | 0533.4 | 0542.5 | 14.6 | 175.0 | | | | |
| | 4995 | SVTO | 4 S/F | 0534.0E | 0542.0 | 16.00 | 280.0 | | | | QL=1 ST=2 TYP=5 |
| | 8800 | SVTO | 4 S/F | 0534.0E | 0542.0 | 15.00 | 270.0 | | | | QL=1 ST=2 TYP=3 |
| | 2695 | SVTO | 20 GRF | 0536.0E | 0543.0 | 14.00 | 160.0 | | | | QL=1 ST=2 TYP=2 |
| | 8800 | SVTO | 4 S/F | 0536.0E | 0542.0 | 13.00 | 270.0 | | | | QL=1 ST=2 TYP=3 |
| | 410 | SVTO | 4 S/F | 0536.0E | 0546.0 | 12.00 | 59.0 | | | | QL=1 ST=2 TYP=5 |
| | 610 | SVTO | 4 S/F | 0536.0E | 0546.0 | 14.00 | 95.0 | | | | QL=1 ST=2 TYP=5 |
| | 3100 | CRIM | 29 PBI | 0536.0 | 0552.0 | 25.0 | 22.0 | 7.0 | | | |
| | 3100 | CRIM | 45 C | 0536.0 | 0538.2 | 16.0 | 95.0 | 45.0 | | | |
| | 3100 | CRIM | 45 C | 0536.0 | 0542.7 | | 138.0 | | | | |
| | 3100 | CRIM | 45 C | 0536.0 | 0543.9 | | 141.0 | | | | |
| | 2950 | GORK | 46 C | 0536.5 | 0538.5 | 14.5 | 80.0 | | | | |
| | 9100 | GORK | 4 S/F | 0536.5U | 0542.6 | 14.50 | 298.0 | | | | |
| | 2950 | GORK | 46 C | 0536.5 | 0542.7 | | 132.0 | | | | |
| | 2950 | GORK | 46 C | 0536.5 | 0543.8 | | 132.0 | | | | |
| | 2840 | PEKG | 5 S | 0536.5 | 0543.8 | 17.5 | 239.0 | | | | |
| | 1415 | SVTO | 20 GRF | 0537.0E | 0544.0 | 11.00 | 61.0 | | | | QL=1 ST=2 TYP=2 |
| | 15400 | SVTO | 4 S/F | 0537.0E | 0542.0 | 22.00 | 180.0 | | | | QL=1 ST=2 TYP=3 |
| | 2840 | PEKG | 29 PBI | 0554.0 | | 76.0 | 40.7 | | | | |
| | 650 | GORK | 30 PBI | 0554.8 | 0554.8 | 54.3 | 24.0 | | | | |
| | 100 | HIRA | 46 C | 0606.6 | 0607.6U | 2.5 | 1000.00 | | | | |
| | 650 | GORK | 2 S/F | 0639.0 | 0640.5 | 2.6 | 5.0 | | | | |
| | 950 | GORK | 2 S/F | 0639.0 | 0640.8 | 3.8 | 3.0 | | | | |
| | 5900 | KISV | 2 S/F | 0648.0 | 0649.1 | 5.8 | 24.0 | | | | |
| | 9300 | KISV | 45 C | 0648.0 | 0649.6 | 4.2 | 27.0 | | | | |
| | 9300 | KISV | 45 C | 0648.0 | 0648.8 | | 17.0 | | | | |
| | 9100 | GORK | 2 S/F | 0648.2 | 0649.0 | 2.3 | 21.0 | | | | |
| | 536 | ONDR | 41 F | 0714.0 | 0735.9 | 60.0 | 53.0 | | | | |
| | 810 | KRAK | 42 SER | 0717.2 | 0720.0 | 19.8 | 42.0 | | | | |
| | 5900 | KISV | 2 S/F | 0731.4 | 0731.5 | 1.1 | 5.0 | | | | |
| 9300 | KISV | 2 S/F | 0731.4 | 0731.6 | 0.4 | 6.0 | | | | | |
| 500 | HIRA | 42 SER | 0735.9 | 0736.2 | 1.8 | 200.0 | | | | 0 | |
| 2840 | PEKG | 1 S | 0736.5 | 0737.7 | 2.5 | 7.3 | | | | | |
| 9300 | KISV | 23 GRF | 0736.6 | 0742.7 | 10.1 | 10.0 | | | | | |
| 410 | LEAR | 8 S | 0737.0E | 0737.0 | | 83.0 | | | | QL=1 ST=3 TYP=3 | |
| 950 | GORK | 3 S | 0744.5 | 0746.2 | 12.8 | 84.0 | | | | | |
| 3100 | CRIM | 3 S | 0744.5 | 0745.9 | 7.0 | 209.0 | 70.0 | | | | |
| 2840 | PEKG | 5 S | 0744.5 | 0745.9 | 8.5 | 338.0 | | | | | |
| 650 | GORK | 4 S/F | 0744.7 | 0746.4 | 7.9 | 34.0 | | | | | |
| 2950 | GORK | 45 C | 0744.8 | 0748.0 | | 30.0 | | | | | |
| 2950 | GORK | 45 C | 0744.8 | 0745.9 | 7.9 | 265.0 | | | | | |
| 100 | HIRA | 46 C | 0744.9 | | 1.5 | 1000.00 | | | | | |
| 30 | POTS | 4 S/F | 0744.9 | 0746.5U | 2.6 | 12000.00 | | | | | |
| 9300 | KISV | 4 S/F | 0745.0 | 0746.0 | 1.9 | 130.0 | | | | | |
| 610 | LEAR | 8 S | 0745.0E | 0746.0 | 2.00 | 32.0 | | | | QL=1 ST=2 TYP=3 | |
| 410 | LEAR | 4 S/F | 0745.0E | 0745.0 | 3.00 | 73.0 | | | | QL=1 ST=2 TYP=3 | |
| 1415 | LEAR | 4 S/F | 0745.0E | 0746.0 | 4.00 | 150.0 | | | | QL=1 ST=2 TYP=3 | |
| 2695 | LEAR | 4 S/F | 0745.0E | 0745.0 | 3.00 | 290.0 | | | | QL=1 ST=2 TYP=3 | |
| 4995 | LEAR | 8 S | 0745.0E | 0745.0 | 1.00 | 250.0 | | | | QL=1 ST=2 TYP=3 | |

96
Jun 89

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

JUNE 1989

| Day | Freq | Sta | Type | Start (UT) | Time of Maximum (UT) | Duration (Min) | Flux Density Peak (10 -22 W/m ² Hz) | Mean | Int | Remarks |
|------|-------|--------|---------|------------|----------------------|----------------|--|-------|-----------------|-----------------|
| 19 | 8800 | LEAR | 8 S | 0745.0E | 0745.0 | 1.00 | 180.0 | | | QL=1 ST=2 TYP=3 |
| | 1415 | SVTO | 4 S/F | 0745.0E | 0746.0 | 3.00 | 170.0 | | | QL=1 ST=2 TYP=3 |
| | 8800 | SVTO | 8 S | 0745.0E | 0745.0 | 1.00 | 190.0 | | | QL=1 ST=2 TYP=3 |
| | 4995 | SVTO | 8 S | 0745.0E | 0745.0 | 1.00 | 250.0 | | | QL=1 ST=2 TYP=3 |
| | 15400 | SVTO | 8 S | 0745.0E | 0745.0 | 1.00 | 190.0 | | | QL=1 ST=2 TYP=3 |
| | 2695 | SVTO | 8 S | 0745.0E | 0745.0 | 2.00 | 280.0 | | | QL=1 ST=2 TYP=3 |
| | 9500 | POTS | 3 S | 0745.0 | 0746.0 | 15.0 | 175.0 | | | |
| | 1470 | POTS | 3 S | 0745.0 | 0746.4 | 15.0 | 185.0 | | | |
| | 500 | HIRA | 46 C | 0745.0 | 0745.5 | 9.0 | 120.0 | | | 0 |
| | 9100 | GORK | 4 S/F | 0745.0 | 0745.7 | 3.3 | 221.0 | | | |
| | 15000 | KISV | 4 S/F | 0745.0 | 0745.8 | 1.5 | 179.0 | | | |
| | 3000 | POTS | 4 S/F | 0745.0 | 0745.8 | 15.0 | 252.0 | | | |
| | 3013 | IZMI | 7 C | 0745.0 | 0745.9 | 5.0 | 95.0 | 47.0 | | |
| | 5900 | KISV | 3 S | 0745.0 | 0745.9 | 2.1 | 135.0 | | | |
| | 430 | KRAK | 46 C | 0745.2 | 0750.1 | | 100.0 | | | |
| | 430 | KRAK | 46 C | 0745.2 | 0745.6 | 3.5 | 200.0 | 29.0 | | |
| | 810 | KRAK | 7 C | 0745.4E | 0746.0 | 5.50 | 50.0 | 14.0 | | |
| | 100 | GORK | 8 S | 0745.7 | 0745.8 | 1.0 | 8836.0 | | | |
| | 200 | HIRA | 46 C | 0747.4 | 0749.5 | 4.0 | 440.0 | | | WR |
| | 245 | LEAR | 49 GB | 0748.0E | 0749.0 | 2.00 | 870.0 | | | QL=1 ST=2 TYP=6 |
| | 245 | SVTO | 49 GB | 0748.0E | 0749.0 | 1.00 | 1000.0 | | | QL=1 ST=2 TYP=6 |
| | 234 | POTS | 4 S/F | 0748.2 | 0749.0 | 1.8 | 700.0 | | | |
| | 650 | GORK | 29 PBI | 0752.6 | 0752.6 | 8.1 | 2.0 | | | |
| | 810 | KRAK | 42 SER | 0814.3 | 0820.2 | 16.2 | 14.0 | | | |
| | 100 | GORK | 41 F | 0844.0 | 0847.0 | | 381.0 | | | |
| | 100 | GORK | 41 F | 0844.0 | 0844.2 | 3.3 | 272.0 | | | |
| | 100 | GORK | 41 F | 0844.0 | 0845.9 | | 490.0 | | | |
| | 5900 | KISV | 1 S | 0853.1 | 0853.4 | 0.9 | 21.0 | | | |
| | 15000 | KISV | 2 S/F | 0853.2 | 0853.4 | 0.8 | 4.0 | | | |
| | 9300 | KISV | 1 S | 0853.2 | 0853.4 | 0.8 | 21.0 | | | |
| | 5900 | KISV | 22 GRF | 0928.9 | 1029.3 | 66.8 | 11.0 | | | |
| | 536 | ONDR | 41 F | 0944.0 | 1028.0 | 50.0 | 26.0 | | | |
| | 810 | KRAK | 42 SER | 0944.5 | 0952.0 | 12.2 | 136.0 | | | |
| | 810 | KRAK | 42 SER | 0944.5 | 0953.7 | | 63.0 | | | |
| | 410 | SGMR | 8 S | 1028.0E | 1028.0 | U | 70.0 | | | QL=1 ST=2 TYP=3 |
| | 5900 | KISV | 22 GRF | 1053.8 | 1110.2 | | 6.0 | | | |
| | 5900 | KISV | 22 GRF | 1053.8 | 1057.7 | | 7.0 | | | |
| | 5900 | KISV | 22 GRF | 1053.8 | 1105.7 | | 5.0 | | | |
| | 9300 | KISV | 42 SER | 1057.4 | 1058.3 | 1.3 | 7.0 | | | |
| | 9300 | KISV | 42 SER | 1057.4 | 1057.6 | | 5.0 | | | |
| | 950 | GORK | 22 GRF | 1102.2 | 1103.9 | 11.0 | 3.0 | | | |
| | 3100 | CRIM | 1 S | 1104.5 | 1105.9 | 2.0 | 4.0 | 1.0 | | |
| | 3100 | CRIM | 1 S | 1109.1 | 1110.3 | 2.5 | 5.0 | 2.0 | | |
| | 9300 | KISV | 45 C | 1109.2 | 1110.2 | 2.5 | 8.0 | | | |
| | 9300 | KISV | 22 GRF | 1129.7 | 1136.3 | 10.0 | 13.0 | | | |
| | 9100 | GORK | 1 S | 1146.2 | 1146.8 | 1.5 | 13.0 | | | |
| | 9300 | KISV | 2 S/F | 1146.4 | 1146.9 | 1.2 | 11.0 | | | |
| | 9300 | KISV | 2 S/F | 1156.0 | 1159.2 | 5.7 | 15.0 | | | |
| | 9500 | POTS | 3 S | 1210.5 | 1211.6 | 2.0 | 29.0 | | | |
| | 9300 | KISV | 25 R | 1224.0 | 1318.5 | 55.0 | 26.0 | | | |
| | 245 | SGMR | 49 GB | 1435.0E | 1435.0 | U | 870.0 | | | QL=1 ST=2 TYP=6 |
| | 245 | SVTO | 49 GB | 1435.0E | 1435.0 | U | 560.0 | | | QL=1 ST=2 TYP=6 |
| | 2800 | OTTA | 28 PRE | 1442.0 | 1449.0 | 12.0 | 11.6 | 3.0 | | |
| | 245 | SVTO | 8 S | 1443.0E | 1444.0 | 1.00 | 69.0 | | | QL=1 ST=2 TYP=3 |
| | 2800 | OTTA | 47 GB | 1454.0 | 1458.5 | 18.0 | 742.0 | 222.0 | | |
| 2800 | OTTA | 29 PBI | 1512.0 | 1535.0 | 348.0 | 40.2 | 16.0 | | | |
| 610 | SGMR | 8 S | 1642.0E | 1642.0 | U | 67.0 | | | QL=1 ST=2 TYP=3 | |
| 410 | SGMR | 8 S | 1642.0E | 1642.0 | U | 66.0 | | | QL=1 ST=2 TYP=3 | |
| 410 | SVTO | 8 S | 1642.0E | 1642.0 | U | 58.0 | | | QL=1 ST=2 TYP=3 | |
| 2800 | OTTA | 4 S/F | 1723.0 | 1725.5 | 10.0 | 124.7 | 25.0 | | | |
| 245 | PALE | 8 S | 1748.0E | 1748.0 | U | 110.0 | | | QL=1 ST=2 TYP=3 | |
| 600 | HUMN | 4 S/F | 1757.0 | 1759.0 | 3.0 | 90.0 | 10.0 | | | |
| 245 | SGMR | 8 S | 1757.0E | 1758.0 | 1.00 | 100.0 | | | QL=1 ST=3 TYP=3 | |
| 410 | PALE | 49 GB | 1758.0E | 1758.0 | 1.00 | 2000.0 | | | QL=1 ST=2 TYP=6 | |
| 610 | PALE | 8 S | 1758.0E | 1758.0 | 1.00 | 260.0 | | | QL=1 ST=2 TYP=3 | |
| 610 | SGMR | 8 S | 1758.0E | 1758.0 | 1.00 | 290.0 | | | QL=1 ST=3 TYP=3 | |
| 410 | SGMR | 49 GB | 1758.0E | 1758.0 | 1.00 | 1100.0 | | | QL=1 ST=3 TYP=6 | |
| 245 | PALE | 8 S | 1936.0E | 1937.0 | 1.00 | 110.0 | | | QL=1 ST=2 TYP=3 | |
| 2800 | OTTA | 3 S | 2028.0 | 2028.5 | 2.0 | 59.9 | 20.0 | | | |

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

97
Jun 89

JUNE 1989

| Day | Freq Sta | Type | Start (UT) | Time of Maximum (UT) | Duration (Min) | Flux Density | | Int | Remarks |
|------------|------------|--------|------------|----------------------|----------------|--|------|-----|-----------------|
| | | | | | | Peak (10 ⁻²² W/m ² Hz) | Mean | | |
| 19 | 245 PALE | 8 S | 2127.0E | 2128.0 | 1.0D | 100.0 | | | QL=1 ST=2 TYP=3 |
| | 2800 OTTA | 4 S/F | 2146.0 | 2157.5 | 62.0 | 253.5 | 76.0 | | |
| | 410 PALE | 8 S | 2153.0E | 2153.0 | U | 270.0 | | | QL=1 ST=2 TYP=3 |
| | 245 PALE | 8 S | 2153.0E | 2153.0 | 1.0D | 130.0 | | | QL=1 ST=2 TYP=3 |
| | 410 SGMR | 8 S | 2153.0E | 2153.0 | U | 440.0 | | | QL=1 ST=2 TYP=3 |
| | 245 SGMR | 8 S | 2153.0E | 2153.0 | U | 160.0 | | | QL=1 ST=2 TYP=3 |
| | 500 HIRA | 42 SER | 2153.0 | 2153.5 | 2.7 | 170.0 | | | 0 |
| | 245 SGMR | 8 S | 2202.0E | 2203.0 | 1.0D | 330.0 | | | QL=1 ST=2 TYP=3 |
| | 500 HIRA | 27 RF | 2312.0 | 2336.5 | 40.0 | 6.0 | 3.0 | | WL |
| | 410 LEAR | 8 S | 2338.0E | 2339.0 | 2.0D | 160.0 | | | QL=1 ST=2 TYP=3 |
| | 500 HIRA | 41 F | 2338.8 | 2339.5 | 2.0 | 143.0 | | | WL |
| 100 HIRA | 46 C | 2338.9 | 2339.7 | 1.8 | 630.0 | | | | |
| 20 | 100 GORK | 44 NS | 0251.0E | | 429.0D | | | | |
| | 204 IZMI | 43 NS | 0600.0 | | 360.0 | 10.0 | | | |
| | 260 ONDR | 44 NS | 0610.0E | 1450.5 | 580.0D | | | | |
| | 127 TORN | 44 NS | 0620.0E | | 560.0D | | 6.0 | | V=1 |
| | 430 KRAK | 44 NS | 0724.0E | 1300.2 | 367.0D | 22.0 | 4.0 | | |
| | 245 SGMR | 44 NS | 1825.0E | 1829.0 | 197.0D | 57.0 | | | QL=1 ST=3 TYP=1 |
| | 410 LEAR | 8 S | 0049.0E | 0049.0 | 1.0D | 240.0 | | | QL=1 ST=2 TYP=3 |
| | 410 PALE | 8 S | 0049.0E | 0049.0 | 1.0D | 340.0 | | | QL=1 ST=2 TYP=3 |
| | 200 HIRA | 8 S | 0242.0 | 0242.1 | 0.9 | 175.0 | | | SR |
| | 650 GORK | 23 GRF | 0300.0E | 0455.7 | 273.0D | 10.0 | | | |
| | 9100 GORK | 21 GRF | 0304.0E | 0437.8 | 395.7D | 14.0 | | | |
| | 650 GORK | 45 C | 0326.4 | 0327.2 | | | 7.0 | | |
| | 650 GORK | 45 C | 0326.4 | 0326.4 | 1.0 | 5.0 | | | |
| | 950 GORK | 2 S/F | 0326.5 | 0327.2 | 1.0 | 11.0 | | | |
| | 950 GORK | 21 GRF | 0331.5 | 0346.0 | 28.5 | 2.0 | | | |
| | 650 GORK | 4 S/F | 0338.6 | 0339.9 | 1.3 | 13.0 | | | |
| | 950 GORK | 21 GRF | 0340.0 | 0341.5 | 4.8 | 2.0 | | | |
| | 950 GORK | 2 S/F | 0344.0 | 0344.5 | 0.8 | 10.0 | | | |
| | 650 GORK | 4 S/F | 0344.0 | 0344.5 | 1.5 | 34.0 | | | |
| | 650 GORK | 4 S/F | 0344.4 | | 1.1 | | | | |
| | 950 GORK | 22 GRF | 0409.5 | 0437.2 | 68.9 | 4.0 | | | |
| | 245 LEAR | 8 S | 0410.0E | 0410.0 | 1.0D | 57.0 | | | QL=1 ST=2 TYP=3 |
| | 245 PALE | 8 S | 0410.0E | 0410.0 | 1.0D | 84.0 | | | QL=1 ST=2 TYP=3 |
| | 245 SVTO | 8 S | 0410.0E | 0410.0 | 2.0D | 58.0 | | | QL=1 ST=2 TYP=3 |
| | 5900 KISV | 46 C | 0436.7 | 0437.9 | 7.0 | 16.0 | | | |
| | 9300 KISV | 2 S/F | 0437.4 | 0437.8 | 1.0 | 9.0 | | | |
| | 950 GORK | 2 S/F | 0727.0 | 0728.7 | 3.0 | 7.0 | | | |
| | 5900 KISV | 22 GRF | 0813.4 | 0816.2 | 26.3 | 23.0 | | | |
| | 5900 KISV | 22 GRF | 0813.4 | 0837.7 | | 9.0 | | | |
| | 8800 LEAR | 8 S | 0814.0E | 0814.0 | 1.0D | 130.0 | | | QL=1 ST=2 TYP=3 |
| | 15400 SVTO | 8 S | 0814.0E | 0814.0 | 1.0D | 220.0 | | | QL=1 ST=2 TYP=3 |
| | 8800 SVTO | 8 S | 0814.0E | 0814.0 | 1.0D | 160.0 | | | QL=1 ST=2 TYP=3 |
| | 9100 GORK | 4 S/F | 0814.3 | 0814.9 | 3.5 | 166.0 | | | |
| | 9300 KISV | 4 S/F | 0814.5 | 0815.0 | 5.0 | 138.0 | | | |
| | 9500 POTS | 4 S/F | 0814.5 | 0815.0 | 4.5 | 150.0 | | | |
| | 5900 KISV | 4 S/F | 0814.5 | 0814.9 | 1.0 | 59.0 | | | |
| | 15000 KISV | 4 S/F | 0814.6 | 0815.0 | 1.0 | 172.0 | | | |
| | 650 GORK | 23 GRF | 0814.6 | 0928.9 | 116.3 | 7.0 | | | |
| | 9300 KISV | 2 S/F | 0837.3 | 0837.6 | 1.4 | 5.0 | | | |
| | 15000 KISV | 45 C | 0837.5 | 0837.7 | 0.5 | 4.0 | | | |
| | 9300 KISV | 45 C | 0908.0 | 0910.3 | 9.0 | 69.0 | | | |
| 9500 POTS | 4 S/F | 0908.0 | 0910.4 | 27.0 | 58.0 | | | | |
| 9300 KISV | 45 C | 0908.0 | 0912.5 | | 30.0 | | | | |
| 2840 PEKG | 1 S | 0909.0 | 0909.5 | 2.0 | 8.3 | | | | |
| 2950 GORK | 1 S | 0909.2 | 0910.5 | 6.8 | 9.0 | | | | |
| 3100 CRIM | 1 S | 0909.3 | 0910.4 | 2.5 | 9.0 | 3.0 | | | |
| 950 GORK | 22 GRF | 0909.5 | 0928.0 | 35.5 | 5.0 | | | | |
| 9100 GORK | 46 C | 0909.5 | 0910.3 | 5.1 | 66.0 | | | | |
| 5900 KISV | 45 C | 0909.5 | 0910.4 | | 69.0 | | | | |
| 9100 GORK | 46 C | 0909.5 | 0912.5 | | 27.0 | | | | |
| 5900 KISV | 45 C | 0909.5 | 0912.5 | 6.9 | 40.0 | | | | |
| 3000 POTS | 3 S | 0909.5 | 0910.5 | 5.5 | 12.0 | | | | |
| 15000 KISV | 45 C | 0909.6 | 0910.4 | 5.0 | 23.0 | | | | |
| 15000 KISV | 45 C | 0909.6 | 0912.5 | | 13.0 | | | | |
| 3013 IZMI | 1 S | 0910.0 | 0910.5 | 2.0 | 8.0 | 4.0 | | | |
| 650 GORK | 4 S/F | 0911.4 | 0911.5 | 0.6 | 19.0 | | | | |

98
Jun 89

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

JUNE 1989

| 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 | 33 | UPIC | 42 | SER | 0914.4 | 1009.0 | 139.9 | | | |
| | 536 | ONDR | 8 | S | 0923.5 | 0923.7 | 0.8 | 30.0 | | |
| | 536 | ONDR | 8 | S | 1025.0 | 1025.2 | 0.9 | 68.0 | | |
| | 9100 | GORK | 20 | GRF | 1045.0 | 1133.8 | 75.0 | 17.0 | | |
| | 245 | SGMR | 8 | S | 1208.0E | 1208.0 | U | 51.0 | | QL=1 ST=2 TYP=3 |
| | 810 | KRAK | 8 | S | 1225.5 | 1225.6 | 0.2 | 8.0 | | |
| | 9500 | POTS | 46 | C | 1430.0 | 1455.4 | 450.0 | 344.0 | | |
| | 9500 | POTS | 46 | C | 1430.0 | 1457.5 | | 245.0 | | |
| | 3000 | POTS | 46 | C | 1440.0 | 1457.6 | 35.00 | 854.0 | | |
| | 808 | ONDR | 49 | GB | 1442.5 | 1458.8 | 55.0 | 65.0 | | |
| | 600 | HUMN | 27 | RF | 1445.0 | 1459.0 | 81.0 | 43.0 | 14.0 | |
| | 1470 | POTS | 46 | C | 1445.0 | 1458.2 | 30.00 | 770.0 | | |
| | 1470 | POTS | 46 | C | 1445.0 | 1501.3 | | 875.0 | | |
| | 30 | POTS | 4 | S/F | 1445.5 | 1446.5 | 5.5 | 6000.0 | | |
| | 33 | UPIC | 46 | C | 1445.5U | 1446.9 | 12.0U | | | |
| | 536 | ONDR | 49 | GB | 1446.5 | 1458.5 | 45.0 | 57.0 | | |
| | 245 | SGMR | 49 | GB | 1450.0E | 1450.0 | 1.00 | 3900.0 | | QL=1 ST=2 TYP=6 |
| | 245 | SVTO | 49 | GB | 1450.0E | 1450.0 | 1.00 | 2900.0 | | QL=1 ST=2 TYP=6 |
| | 234 | POTS | 4 | S/F | 1450.0 | 1450.3 | 1.6 | 3800.0 | | |
| | 2695 | SGMR | 49 | GB | 1455.0E | 1458.0 | 16.00 | 590.0 | | QL=1 ST=2 TYP=6 |
| | 4995 | SVTO | 49 | GB | 1455.0E | 1457.0 | 15.00 | 540.0 | | QL=1 ST=2 TYP=6 |
| | 2695 | SVTO | 49 | GB | 1455.0E | 1457.0 | 14.00 | 560.0 | | QL=1 ST=2 TYP=6 |
| | 8800 | SGMR | 4 | S/F | 1455.0E | 1457.0 | 20.00 | 420.0 | | QL=1 ST=2 TYP=3 |
| | 4995 | SGMR | 49 | GB | 1455.0E | 1457.0 | 20.00 | 690.0 | | QL=1 ST=2 TYP=6 |
| | 1415 | SGMR | 49 | GB | 1455.0E | 1458.0 | 545.00 | 640.0 | | QL=1 ST=1 TYP=6 |
| | 15400 | SGMR | 4 | S/F | 1455.0E | 1457.0 | 545.00 | 210.0 | | QL=1 ST=1 TYP=3 |
| | 1415 | SVTO | 49 | GB | 1456.0E | 1458.0 | 9.00 | 540.0 | | QL=1 ST=2 TYP=6 |
| | 610 | SGMR | 4 | S/F | 1456.0E | 1458.0 | 14.00 | 95.0 | | QL=1 ST=2 TYP=3 |
| | 8800 | SVTO | 4 | S/F | 1456.0E | 1457.0 | 15.00 | 320.0 | | QL=1 ST=2 TYP=3 |
| | 610 | SVTO | 4 | S/F | 1456.0E | 1459.0 | 17.00 | 95.0 | | QL=1 ST=2 TYP=3 |
| | 15400 | SVTO | 4 | S/F | 1456.0E | 1457.0 | 17.00 | 170.0 | | QL=1 ST=2 TYP=3 |
| | 410 | SGMR | 8 | S | 1459.0E | 1459.0 | U | 77.0 | | QL=1 ST=2 TYP=3 |
| | 410 | SVTO | 8 | S | 1507.0E | 1507.0 | U | 48.0 | | QL=1 ST=2 TYP=3 |
| | 410 | SVTO | 4 | S/F | 1515.0E | 1516.0 | 4.00 | 46.0 | | QL=1 ST=2 TYP=3 |
| | 245 | SGMR | 4 | S/F | 1516.0E | 1518.0 | 4.00 | 140.0 | | QL=1 ST=2 TYP=3 |
| | 245 | SVTO | 4 | S/F | 1516.0E | 1518.0 | 11.00 | 84.0 | | QL=1 ST=2 TYP=3 |
| | 15400 | SVTO | 8 | S | 1528.0E | 1529.0 | 1.00 | 54.0 | | QL=1 ST=2 TYP=3 |
| | 4995 | SVTO | 8 | S | 1529.0E | 1530.0 | 1.00 | 40.0 | | QL=1 ST=2 TYP=3 |
| | 8800 | SVTO | 8 | S | 1529.0E | 1529.0 | U | 38.0 | | QL=1 ST=2 TYP=3 |
| | 2695 | SGMR | 8 | S | 1645.0E | 1645.0 | U | 80.0 | | QL=1 ST=2 TYP=3 |
| | 610 | SVTO | 49 | GB | 1652.0E | 1652.0 | 1.00 | 570.0 | | QL=1 ST=2 TYP=6 |
| | 245 | PALE | 8 | S | 1721.0E | 1723.0 | 2.00 | 180.0 | | QL=1 ST=2 TYP=3 |
| | 600 | HUMN | 4 | S/F | 1722.0 | 1725.0 | 10.0 | 50.0 | 5.0 | |
| | 245 | SVTO | 8 | S | 1723.0E | 1723.0 | 2.00 | 120.0 | | QL=1 ST=2 TYP=3 |
| | 410 | PALE | 8 | S | 1724.0E | 1725.0 | 1.00 | 70.0 | | QL=1 ST=2 TYP=3 |
| | 245 | PALE | 8 | S | 1724.0E | 1725.0 | 2.00 | 170.0 | | QL=1 ST=2 TYP=3 |
| | 610 | PALE | 8 | S | 1724.0E | 1725.0 | 1.00 | 80.0 | | QL=1 ST=2 TYP=3 |
| | 2695 | PALE | 8 | S | 1724.0E | 1724.0 | 1.00 | 110.0 | | QL=1 ST=2 TYP=3 |
| | 2695 | SVTO | 8 | S | 1724.0E | 1724.0 | U | 98.0 | | QL=1 ST=2 TYP=3 |
| | 610 | SVTO | 8 | S | 1724.0E | 1724.0 | 1.00 | 76.0 | | QL=1 ST=2 TYP=3 |
| 410 | SVTO | 4 | S/F | 1724.0E | 1725.0 | 4.00 | 78.0 | | QL=1 ST=2 TYP=5 | |
| 500 | HIRA | 45 | C | 2017.8 | 2019.3 | 3.5 | 13.0 | | WR | |
| 610 | PALE | 4 | S/F | 2018.0E | 2019.0 | 3.00 | 140.0 | | QL=1 ST=2 TYP=3 | |
| 610 | SGMR | 4 | S/F | 2018.0E | 2019.0 | 3.00 | 120.0 | | QL=1 ST=2 TYP=3 | |
| 500 | HIRA | 46 | C | 2147.0 | 2200.0 | 54.0 | 33.0 | | WL | |
| 8800 | SGMR | 49 | GB | 2155.0E | 2159.0 | 19.00 | 760.0 | | QL=1 ST=2 TYP=7 | |
| 2695 | SGMR | 4 | S/F | 2155.0E | 2157.0 | 16.00 | 240.0 | | QL=1 ST=2 TYP=5 | |
| 1415 | SGMR | 4 | S/F | 2155.0E | 2157.0 | 13.00 | 160.0 | | QL=1 ST=2 TYP=5 | |
| 4995 | SGMR | 49 | GB | 2155.0E | 2159.0 | 19.00 | 550.0 | | QL=1 ST=2 TYP=7 | |
| 1415 | PALE | 4 | S/F | 2156.0E | 2157.0 | 6.00 | 130.0 | | QL=1 ST=2 TYP=3 | |
| 2695 | PALE | 20 | GRF | 2156.0E | 2157.0 | 14.00 | 230.0 | | QL=1 ST=2 TYP=2 | |
| 8800 | PALE | 49 | GB | 2156.0E | 2159.0 | 15.00 | 520.0 | | QL=1 ST=2 TYP=6 | |
| 15400 | PALE | 4 | S/F | 2156.0E | 2159.0 | 23.00 | 340.0 | | QL=1 ST=2 TYP=3 | |
| 15400 | SGMR | 4 | S/F | 2156.0E | 2159.0 | 124.00 | 270.0 | | QL=1 ST=1 TYP=3 | |
| 200 | HIRA | 27 | RF | 2156.0 | 2209.2 | 178.0 | 48.0 | 5.0 | 0 | |
| 410 | PALE | 8 | S | 2157.0E | 2157.0 | U | 170.0 | | QL=1 ST=2 TYP=3 | |
| 410 | SGMR | 4 | S/F | 2157.0E | 2157.0 | 3.00 | 240.0 | | QL=1 ST=2 TYP=3 | |
| 610 | SGMR | 4 | S/F | 2157.0E | 2200.0 | 4.00 | 42.0 | | QL=1 ST=2 TYP=5 | |
| 245 | SGMR | 8 | S | 2203.0E | 2203.0 | 1.00 | 85.0 | | QL=1 ST=2 TYP=3 | |

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

99
Jun 89

JUNE 1989

| 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 |
|-------|------|--------|---------|------------|----------------------|----------------|---|---|-----------------|-----------------|
| 20 | 100 | HIRA | 27 RF | 2206.9 | 2222.0 | 65.0 | 80.0 | 17.0 | | |
| | 245 | PALE | 8 S | 2211.0E | 2212.0 | 1.0D | 81.0 | | | QL=1 ST=2 TYP=3 |
| | 245 | SGMR | 8 S | 2249.0E | 2250.0 | 1.0D | 50.0 | | | QL=1 ST=2 TYP=3 |
| 21 | 33 | UPIC | 43 NS | 0439.5 | | 592.3 | | | | |
| | 127 | TORN | 43 NS | 0900.0 | | 300.0 | | 4.0 | | V=1 |
| | 260 | ONDR | 43 NS | 1225.5 | 1244.3 | 53.0 | 50.0 | | | |
| | 2695 | LEAR | 8 S | 0041.0E | 0041.0 | 1.0D | 57.0 | | | QL=1 ST=2 TYP=3 |
| | 2840 | PEKG | 20 GRF | 0134.0 | 0139.9 | 14.0 | 10.5 | | | |
| | 100 | HIRA | 46 C | 0135.6 | 0138.8 | 4.4 | 970.0 | | | |
| | 200 | HIRA | 41 F | 0137.0 | 0138.9 | 2.8 | 385.0 | | | 0 |
| | 410 | LEAR | 8 S | 0139.0E | 0139.0 | U | 41.0 | | | QL=1 ST=2 TYP=3 |
| | 245 | LEAR | 8 S | 0139.0E | 0139.0 | 1.0D | 100.0 | | | QL=1 ST=2 TYP=3 |
| | 245 | PALE | 8 S | 0139.0E | 0139.0 | U | 130.0 | | | QL=1 ST=2 TYP=3 |
| | 2840 | PEKG | 20 GRF | 0252.5 | 0532.0 | 342.0 | 21.7 | | | |
| | 9100 | GORK | 1 S | 0323.9 | 0324.3 | 0.9 | 6.0 | | | |
| | 100 | HIRA | 42 SER | 0434.0 | 0440.3 | 50.0 | 1000.0 | | | |
| | 200 | HIRA | 42 SER | 0438.3 | 0439.2 | 31.0 | 140.0 | | | 0 |
| | 650 | GORK | 46 C | 0438.4 | 0447.7 | | 14.0 | | | |
| | 650 | GORK | 46 C | 0438.4 | 0439.9 | 14.3 | 7.0 | | | |
| | 950 | GORK | 46 C | 0439.0 | 0440.9 | | 7.0 | | | |
| | 950 | GORK | 46 C | 0439.0 | 0439.9 | 6.2 | 9.0 | | | |
| | 8800 | LEAR | 4 S/F | 0445.0E | 0449.0 | 13.0D | 48.0 | | | QL=1 ST=2 TYP=5 |
| | 9300 | KISV | 45 C | 0445.3 | 0447.0 | | 45.0 | | | |
| | 9300 | KISV | 23 GRF | 0445.3 | 0457.2 | 24.5 | 23.0 | | | |
| | 9300 | KISV | 45 C | 0445.3 | 0449.3 | 10.2 | 45.0 | | | |
| | 5900 | KISV | 23 GRF | 0445.3 | 0457.5 | 21.3 | 18.0 | | | |
| | 9100 | GORK | 46 C | 0445.6 | 0447.0 | 5.6 | 45.0 | | | |
| | 9100 | GORK | 46 C | 0445.6 | 0449.3 | | 47.0 | | | |
| | 5900 | KISV | 4 S/F | 0445.6 | 0449.3 | 7.5 | 43.0 | | | |
| | 2840 | PEKG | 1 S | 0446.0 | 0449.0 | 8.0 | 8.1 | | | |
| | 4995 | LEAR | 4 S/F | 0446.0E | 0449.0 | 12.0D | 50.0 | | | QL=1 ST=2 TYP=3 |
| | 2950 | GORK | 2 S/F | 0446.8 | 0449.2 | 6.7 | 14.0 | | | |
| | 410 | LEAR | 8 S | 0447.0E | 0447.0 | 1.0D | 21.0 | | | QL=1 ST=2 TYP=3 |
| | 500 | HIRA | 41 F | 0447.3 | 0448.0 | 2.5 | 18.0 | | | WR |
| | 950 | GORK | 46 C | 0447.3 | 0449.1 | | 2.0 | | | |
| | 950 | GORK | 46 C | 0447.3 | 0447.8 | 2.9 | 2.0 | | | |
| | 2695 | LEAR | 8 S | 0449.0E | 0449.0 | U | 23.0 | | | QL=1 ST=2 TYP=3 |
| | 9100 | GORK | 29 PBI | 0451.2 | 0451.2 | 14.8 | 19.0 | | | |
| | 260 | ONDR | 42 SER | 0640.0E | 1031.0 | 345.0D | 156.0 | | | |
| | 810 | KRAK | 8 S | 0802.0 | 0802.0 | 0.1 | 16.0 | | | |
| | 9300 | KISV | 2 S/F | 0806.1 | 0807.0 | 4.0 | 6.0 | | | |
| | 810 | KRAK | 8 S | 0806.9 | 0807.0 | 0.1 | 19.0 | | | |
| | 950 | GORK | 1 S | 0820.5 | 0822.4 | 2.8 | 3.0 | | | |
| | 650 | GORK | 1 S | 0820.7 | 0822.5 | 2.2 | 2.0 | | | |
| | 3000 | POTS | 40 F | 0821.5 | 0821.6 | 59.0 | 103.0 | | | |
| | 810 | KRAK | 8 S | 0830.5 | 0830.5 | 0.4 | 18.0 | | | |
| | 430 | KRAK | 8 S | 0850.5 | 0850.6 | 0.4 | 27.0 | | | |
| | 33 | UPIC | 46 C | 0944.4 | 0945.1U | 4.1 | | | | |
| | 9300 | KISV | 45 C | 0955.7 | 0957.0 | 3.4 | 6.0 | | | |
| | 5900 | KISV | 45 C | 0955.9 | 0956.7 | 2.6 | 6.0 | | | |
| 234 | POTS | 42 SER | 1028.0 | 1030.5 | 3.0 | 160.0 | | | | |
| 245 | SGMR | 8 S | 1030.0E | 1030.0 | U | 150.0 | | | QL=1 ST=2 TYP=3 | |
| 245 | SVTO | 8 S | 1030.0E | 1030.0 | U | 120.0 | | | QL=1 ST=2 TYP=3 | |
| 430 | KRAK | 42 SER | 1032.5 | 1034.6 | 2.2 | 14.0 | | | | |
| 810 | KRAK | 8 S | 1033.0 | 1033.0 | 0.5 | 8.0 | | | | |
| 9300 | KISV | 22 GRF | 1048.2 | 1057.0 | | 18.0 | | | | |
| 9300 | KISV | 22 GRF | 1048.2 | 1052.4 | 28.3 | 19.0 | | | | |
| 5900 | KISV | 46 C | 1051.4 | 1056.0 | 6.6 | 12.0 | | | | |
| 2950 | GORK | 23 GRF | 1051.4 | 1057.0 | 68.6D | 36.0 | | | | |
| 15000 | KISV | 2 S/F | 1051.4 | 1052.2 | 1.8 | 17.0 | | | | |
| 5900 | KISV | 46 C | 1051.4 | 1052.8 | | 9.0 | | | | |
| 15000 | KISV | 45 C | 1056.5 | 1057.0 | 1.3 | 8.0 | | | | |
| 3100 | CRIM | 1 S | 1056.8 | 1057.4 | 0.6 | 23.0 | | | | |
| 2950 | GORK | 4 S/F | 1057.0 | 1057.2 | 0.4 | 36.0 | | | | |
| 15000 | KISV | 22 GRF | 1100.2 | 1112.2 | 16.8 | 23.0 | | | | |
| 600 | HUMN | 41 F | 1123.0 | 1126.5 | 17.0 | 30.0 | | 6.0 | | |
| 536 | ONDR | 41 F | 1124.6 | 1210.6 | 90.0 | 47.0 | | | | |
| 3000 | POTS | 45 C | 1125.0 | 1136.5 | 22.0 | 117.0 | | | | |

100
Jun 89

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

JUNE 1989

| Day | Freq | Sta | Type | Start (UT) | Time of Maximum (UT) | Duration (Min) | Flux Density | | Int | Remarks |
|------|-------|--------|---------|------------|----------------------|----------------|-----------------------------------|------|-----------------|-----------------|
| | | | | | | | Peak (10 -22 W/m ² Hz) | Mean | | |
| 21 | 9500 | POTS | 21 GRF | 1125.0 | 1142.5 | 135.0 | 30.0 | | | |
| | 9300 | KISV | 22 GRF | 1126.0 | 1143.0 | 118.0 | 29.0 | | | |
| | 15000 | KISV | 22 GRF | 1126.0 | 1237.1 | 138.0 | 43.0 | | | |
| | 9100 | GORK | 23 GRF | 1127.7 | 1140.8 | 32.3 | 29.0 | | | |
| | 1470 | POTS | 46 C | 1128.0 | 1138.2 | 19.0 | 74.0 | | | |
| | 3100 | CRIM | 28 PRE | 1129.0 | 1135.0 | 6.0 | 8.0 | 3.0 | | |
| | 810 | KRAK | 46 C | 1129.0 | 1131.0 | 5.0 | 155.0 | 20.0 | | |
| | 950 | GORK | 46 C | 1129.0 | 1130.9 | | 193.0 | | | |
| | 950 | GORK | 46 C | 1129.0 | 1129.9 | | 165.0 | | | |
| | 808 | ONDR | 42 SER | 1129.1 | 1138.2 | 18.0 | 14.0 | | | |
| | 5900 | KISV | 46 C | 1129.6U | 1138.1 | | 120.0 | | | |
| | 5900 | KISV | 46 C | 1129.6U | 1130.3 | | 46.0 | | | |
| | 5900 | KISV | 46 C | 1129.6U | 1133.5 | | 59.0 | | | |
| | 5900 | KISV | 46 C | 1129.6U | 1136.5 | 17.0U | 147.0 | | | |
| | 5900 | KISV | 29 PBI | 1129.6U | 1146.5 | 90.8D | 42.0 | | | |
| | 15000 | KISV | 45 C | 1129.8 | 1130.0 | | 9.0 | | | |
| | 9300 | KISV | 45 C | 1129.8 | 1130.2 | 1.0 | 15.0 | | | |
| | 15000 | KISV | 45 C | 1129.8 | 1130.3 | 1.0 | 12.0 | | | |
| | 610 | SGMR | 8 S | 1131.0E | 1131.0 | 2.0D | 75.0 | | | QL=1 ST=2 TYP=3 |
| | 33 | UPIC | 48 C | 1131.9 | | 13.5 | | | | |
| | 9300 | KISV | 45 C | 1133.0 | 1133.4 | 0.8 | 22.0 | | | |
| | 15000 | KISV | 45 C | 1133.2 | 1133.4 | 0.8 | 11.0 | | | |
| | 15400 | SVTO | 4 S/F | 1135.0E | 1136.0 | 4.0D | 100.0 | | | QL=1 ST=2 TYP=3 |
| | 3100 | CRIM | 29 PBI | 1135.0 | 1140.0 | 80.0 | 13.0 | | | |
| | 3100 | CRIM | 45 C | 1135.0 | 1136.5 | 5.0 | 157.0 | 50.0 | | |
| | 3100 | CRIM | 45 C | 1135.0 | 1136.8 | | 90.0 | | | |
| | 3100 | CRIM | 45 C | 1135.0 | 1137.9 | | 110.0 | | | |
| | 950 | GORK | 46 C | 1135.8 | 1138.0 | | 230.0 | | | |
| | 950 | GORK | 46 C | 1135.8 | 1136.0 | 6.6 | 230.0 | | | |
| | 9100 | GORK | 46 C | 1135.8 | 1138.0 | | 66.0 | | | |
| | 9100 | GORK | 46 C | 1135.8 | 1136.4 | 3.5 | 113.0 | | | |
| | 3013 | IZMI | 40 F | 1135.8 | 1136.5 | 4.0 | 28.0 | 14.0 | | |
| | 15000 | KISV | 4 S/F | 1135.9 | 1136.6 | 3.8 | 76.0 | | | |
| | 9300 | KISV | 4 S/F | 1135.9 | 1136.6 | 5.1 | 100.0 | | | |
| | 2950 | GORK | 46 C | 1136.0 | 1138.0 | | 88.0 | | | |
| | 8800 | SGMR | 8 S | 1136.0E | 1136.0 | 2.0D | 130.0 | | | QL=1 ST=2 TYP=3 |
| | 4995 | SGMR | 8 S | 1136.0E | 1136.0 | 2.0D | 110.0 | | | QL=1 ST=2 TYP=3 |
| | 15400 | SGMR | 8 S | 1136.0E | 1136.0 | 2.0D | 91.0 | | | QL=1 ST=2 TYP=3 |
| | 2695 | SGMR | 8 S | 1136.0E | 1136.0 | 2.0D | 240.0 | | | QL=1 ST=2 TYP=3 |
| | 1415 | SGMR | 8 S | 1136.0E | 1136.0 | 2.0D | 79.0 | | | QL=1 ST=2 TYP=3 |
| | 2950 | GORK | 46 C | 1136.0 | 1136.5 | 3.4 | 109.0 | | | |
| | 9500 | POTS | 4 S/F | 1136.0 | 1136.5 | 3.0 | 87.0 | | | |
| | 9300 | KISV | 4 S/F | 1137.6 | 1138.1 | 2.0 | 67.0 | | | |
| | 15000 | KISV | 2 S/F | 1137.7 | 1138.1 | 0.7 | 30.0 | | | |
| | 15400 | SVTO | 8 S | 1140.0E | 1141.0 | 1.0D | 29.0 | | | QL=1 ST=2 TYP=3 |
| 810 | KRAK | 42 SER | 1202.0 | 1237.0 | 44.5 | 24.0 | | | | |
| 600 | HUMN | 4 S/F | 1203.0 | 1205.5 | 4.0 | 70.0 | 10.0 | | | |
| 610 | SGMR | 8 S | 1210.0E | 1210.0 | U | 440.0 | | | QL=1 ST=2 TYP=3 | |
| 430 | KRAK | 42 SER | 1210.4 | 1210.5 | 23.0 | 240.0D | | | | |
| 5900 | KISV | 46 C | 1224.2 | 1224.7 | 1.8 | 7.0 | | | | |
| 430 | KRAK | 46 C | 1233.5 | 1241.0 | 10.0 | 174.0 | 7.0 | | | |
| 127 | TORN | 27 RF | 1238.8 | 1243.6 | 33.0 | 395.0 | 30.0 | | | |
| 430 | KRAK | 42 SER | 1243.5 | 1244.5 | 5.0 | 210.0D | | | | |
| 5900 | KISV | 23 GRF | 1248.0 | 1254.7 | 29.3 | 18.0 | | | | |
| 260 | ONDR | 42 SER | 1404.0 | 1404.7 | 96.0 | 129.0 | | | | |
| 245 | PALE | 8 S | 1953.0E | 1953.0 | U | 190.0 | | | QL=1 ST=2 TYP=3 | |
| 245 | SGMR | 8 S | 1953.0E | 1953.0 | U | 180.0 | | | QL=1 ST=2 TYP=3 | |
| 245 | SGMR | 8 S | 2226.0E | 2226.0 | U | 70.0 | | | QL=1 ST=2 TYP=3 | |
| 200 | HIRA | 8 S | 2238.7 | 2238.9 | 0.7 | 65.0 | | | 0 | |
| 245 | PALE | 8 S | 2239.0E | 2239.0 | U | 120.0 | | | QL=1 ST=2 TYP=3 | |
| 245 | SGMR | 8 S | 2239.0E | 2239.0 | U | 150.0 | | | QL=1 ST=2 TYP=3 | |
| 245 | SGMR | 8 S | 2247.0E | 2247.0 | U | 72.0 | | | QL=1 ST=2 TYP=3 | |
| 22 | 100 | GORK | 44 NS | 0300.0E | | 540.0D | 5.0 | | | |
| | 260 | ONDR | 44 NS | 0540.0E | 0912.2 | 600.0D | 213.0 | | | |
| | 33 | UPIC | 43 NS | 0554.0 | | 553.0 | | | | |
| | 127 | TORN | 43 NS | 0912.0 | | 388.0 | 2.0 | | V=1 | |
| | 200 | HIRA | 43 NS | 2300.0 | 0435.6 | 640.0D | 29.0 | 10.0 | | MR |
| | 100 | GORK | 41 F | 0630.0 | 0633.0 | 25.0 | 35.0 | | | |

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

101
Jun 89

JUNE 1989

| Day | Freq | Sta | Type | Start (UT) | Time of Maximum (UT) | Duration (Min) | Flux Density | | Int | Remarks |
|-------|-------|-------|---------|------------|----------------------|----------------|------------------------|-------|-----------------|-----------------|
| | | | | | | | Peak (10 -22 W/m 2 Hz) | Mean | | |
| 22 | 100 | GORK | 41 F | 0630.0 | 0652.3 | | 34.0 | | | |
| | 9100 | GORK | 1 S | 0631.1 | 0633.2 | 5.5 | 5.0 | | | |
| | 9300 | KISV | 20 GRF | 0751.6 | 0753.8 | 30.9 | 9.0 | | | |
| | 9100 | GORK | 2 S/F | 0752.3 | 0753.3 | 6.8 | 7.0 | | | |
| | 650 | GORK | 21 GRF | 0906.00 | 0908.2 | 13.70 | 1.0 | | | |
| | 650 | GORK | 4 S/F | 0908.2 | 0911.2 | 3.4 | 62.0 | | | |
| | 234 | POTS | 41 F | 0909.4 | 0912.8 | 5.3 | 200.0 | | | |
| | 204 | IZHI | 41 F | 0909.8 | 0913.0 | 4.5 | 210.0 | | | |
| | 950 | GORK | 46 C | 0909.8 | 0912.1 | | 11.0 | | | |
| | 950 | GORK | 46 C | 0909.8 | 0911.4 | 11.2 | 14.0 | | | |
| | 245 | LEAR | 4 S/F | 0910.0E | 0912.0 | 3.00 | 110.0 | | | QL=1 ST=3 TYP=5 |
| | 245 | SVTO | 8 S | 0910.0E | 0910.0 | U | 120.0 | | | QL=1 ST=3 TYP=3 |
| | 1470 | POTS | 40 F | 0910.0 | 0912.5 | 5.0 | 30.0 | | | |
| | 808 | ONDR | 41 F | 0910.0 | 0911.6 | 5.0 | 7.0 | | | |
| | 810 | KRAK | 41 F | 0910.8 | 0914.3 | 4.0 | 16.0 | 3.0 | | |
| | 3000 | POTS | 3 S | 0911.0 | 0912.4 | 4.0 | 9.0 | | | |
| | 200 | HIRA | 46 C | 0911.0 | 0911.9 | 7.9 | 180.0 | | | 0 |
| | 1415 | LEAR | 8 S | 0912.0E | 0912.0 | U | 26.0 | | | QL=1 ST=3 TYP=3 |
| | 2950 | GORK | 1 S | 0912.0 | 0912.3 | 4.1 | 5.0 | | | |
| | 3100 | CRIM | 2 S/F | 0912.2 | 0912.3 | 3.0 | 8.0 | 3.0 | | |
| | 9100 | GORK | 1 S | 0912.4 | 0913.7 | 3.4 | 10.0 | | | |
| | 430 | KRAK | 46 C | 0912.5 | 0914.0 | 2.0 | 65.0 | 6.0 | | |
| | 9500 | POTS | 1 S | 0912.5 | 0913.7 | 2.5 | 10.0 | | | |
| | 5900 | KISV | 2 S/F | 0912.8 | 0913.8 | 1.9 | 6.0 | | | |
| | 9300 | KISV | 2 S/F | 0912.8 | 0913.8 | 2.0 | 13.0 | | | |
| | 536 | ONDR | 40 F | 0913.0 | 0913.8 | 1.5 | 66.0 | | | |
| | 15000 | KISV | 2 S/F | 0913.4 | 0913.7 | 0.7 | 12.0 | | | |
| | 600 | HUMN | 3 S | 0913.8 | 0914.3 | 0.7 | 40.0 | 12.0 | | |
| | 610 | LEAR | 8 S | 0914.0E | 0914.0 | U | 46.0 | | | QL=1 ST=3 TYP=3 |
| | 500 | HIRA | 8 S | 0914.0 | 0914.1 | 0.5 | 55.0 | | | 0 |
| | 9300 | KISV | 2 S/F | 0943.8 | 0944.8 | 3.7 | 10.0 | | | |
| | 5900 | KISV | 23 GRF | 0957.1 | 1004.0 | | 9.0 | | | |
| | 5900 | KISV | 23 GRF | 0957.1 | 0959.6 | 13.3 | 9.0 | | | |
| | 245 | SGMR | 8 S | 1047.0E | 1048.0 | 1.00 | 75.0 | | | QL=1 ST=2 TYP=3 |
| | 536 | ONDR | 40 F | 1209.0 | 1213.4 | 6.0 | 15.0 | | | |
| | 127 | TORN | 47 GB | 1212.6 | 1213.0 | 2.7 | 1050.0 | 105.0 | | |
| | 30 | POTS | 4 S/F | 1212.6 | 1213.80 | 2.9 | 4000.00 | | | |
| | 245 | SGMR | 8 S | 1213.0E | 1213.0 | 1.00 | 120.0 | | | QL=1 ST=2 TYP=3 |
| | 810 | KRAK | 2 S/F | 1213.2 | 1213.9 | 1.7 | 18.0 | 9.0 | | |
| | 808 | ONDR | 41 F | 1213.3 | 1213.8 | 3.0 | 11.0 | | | |
| | 430 | KRAK | 1 S | 1213.5 | 1213.9 | 1.5 | 6.0 | 3.0 | | |
| | 234 | POTS | 4 S/F | 1213.6 | 1213.8 | 0.9 | 275.0 | | | |
| | 5900 | KISV | 23 GRF | 1234.1 | 1247.5 | 26.2 | 20.0 | | | |
| | 9300 | KISV | 23 GRF | 1234.1 | 1247.5 | 21.9 | 15.0 | | | |
| | 9500 | POTS | 3 S | 1243.0 | 1243.5 | 1.5 | 25.0 | | | |
| | 9300 | KISV | 4 S/F | 1243.1 | 1243.7 | 2.5 | 39.0 | | | |
| | 5900 | KISV | 1 S | 1243.3 | 1243.7 | 0.8 | 19.0 | | | |
| | 15000 | KISV | 2 S/F | 1243.3 | 1243.7 | 1.3 | 11.0 | | | |
| | 410 | SGMR | 8 S | 1342.0E | 1342.0 | U | 77.0 | | | QL=/ ST=1 TYP=3 |
| | 9300 | KISV | 2 S/F | 1352.6 | 1353.9 | 4.7 | 13.0 | | | |
| 9500 | POTS | 3 S | 1402.5 | 1403.0 | 1.5 | 11.0 | | | | |
| 234 | POTS | 4 S/F | 1431.9 | 1432.4 | 1.1 | 150.0 | | | | |
| 245 | SGMR | 8 S | 1432.0E | 1432.0 | U | 140.0 | | | QL=1 ST=2 TYP=3 | |
| 245 | SVTO | 8 S | 1432.0E | 1432.0 | U | 110.0 | | | QL=1 ST=2 TYP=3 | |
| 9500 | POTS | 4 S/F | 1442.5 | 1445.0 | 13.0 | 153.0 | | | | |
| 1470 | POTS | 4 S/F | 1442.5 | 1445.5 | 9.5 | 35.0 | | | | |
| 3000 | POTS | 4 S/F | 1443.0 | 1445.5 | 12.0 | 73.0 | | | | |
| 1415 | SGMR | 8 S | 1444.0E | 1445.0 | 1.00 | 40.0 | | | QL=1 ST=2 TYP=3 | |
| 4995 | SGMR | 8 S | 1444.0E | 1445.0 | 1.00 | 150.0 | | | QL=1 ST=2 TYP=3 | |
| 2695 | SGMR | 8 S | 1444.0E | 1445.0 | 2.00 | 83.0 | | | QL=1 ST=2 TYP=3 | |
| 610 | SGMR | 49 GB | 1444.0E | 1445.0 | 1.00 | 670.0 | | | QL=1 ST=2 TYP=6 | |
| 8800 | SGMR | 4 S/F | 1444.0E | 1444.0 | 5.00 | 230.0 | | | QL=1 ST=2 TYP=3 | |
| 610 | SVTO | 49 GB | 1444.0E | 1445.0 | 2.00 | 520.0 | | | QL=1 ST=2 TYP=6 | |
| 15400 | SVTO | 8 S | 1444.0E | 1445.0 | 2.00 | 160.0 | | | QL=1 ST=2 TYP=3 | |
| 536 | ONDR | 3 S | 1444.0 | 1445.2 | 2.0 | 130.0 | | | | |
| 808 | ONDR | 8 S | 1444.0 | 1444.5 | 3.0 | 200.0 | | | | |
| 600 | HUMN | 4 S/F | 1444.5 | 1445.0 | 1.0 | 150.0 | 40.0 | | | |
| 245 | PALE | 8 S | 1713.0E | 1713.0 | 1.00 | 450.0 | | | QL=1 ST=2 TYP=3 | |
| 245 | SGMR | 8 S | 1713.0E | 1713.0 | 1.00 | 370.0 | | | QL=1 ST=2 TYP=3 | |

102
Jun 89

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

JUNE 1989

| Day | Freq | Sta | Type | Start (UT) | Time of Maximum (UT) | Duration (Min) | Flux Density | | Int | Remarks |
|----------|------------|----------|---------|------------|----------------------|----------------|--|--------|-----------------|-----------------|
| | | | | | | | Peak (10 ⁻²² W/m ² Hz) | Mean | | |
| 22 | L | 245 SVTO | 8 S | 1713.0E | 1713.0 | 1.0D | 270.0 | | | QL=1 ST=2 TYP=3 |
| | | 245 SGMR | 8 S | 1937.0E | 1938.0 | 1.0D | 240.0 | | | QL=1 ST=3 TYP=3 |
| | | 200 HIRA | 46 C | 2055.6 | 2056.4 | 1.4 | 94.0 | | | 0 |
| | [| 100 HIRA | 46 C | 2055.8 | 2057.0 | 2.3 | 450.0 | | | |
| | | 245 PALE | 49 GB | 2057.0E | 2057.0 | U | 760.0 | | | QL=1 ST=2 TYP=6 |
| | [| 245 SGMR | 49 GB | 2057.0E | 2057.0 | U | 610.0 | | | QL=1 ST=2 TYP=6 |
| | | 245 PALE | 49 GB | 2307.0E | 2307.0 | 1.0D | 1300.0 | | | QL=1 ST=2 TYP=6 |
| | [| 245 SGMR | 49 GB | 2307.0E | 2307.0 | 1.0D | 1400.0 | | | QL=1 ST=2 TYP=6 |
| | | 100 HIRA | 42 SER | 2307.1 | 2307.6 | 36.0 | 690.0 | | | |
| | [| 200 HIRA | 42 SER | 2307.3 | 2307.3 | 86.0 | 1800.0 | | | 0 |
| | | 410 PALE | 8 S | 2313.0E | 2313.0 | 1.0D | 70.0 | | | QL=1 ST=2 TYP=3 |
| | [| 245 PALE | 8 S | 2313.0E | 2313.0 | 1.0D | 130.0 | | | QL=1 ST=2 TYP=3 |
| | | 410 SGMR | 8 S | 2313.0E | 2314.0 | 1.0D | 58.0 | | | QL=1 ST=2 TYP=3 |
| | [| 245 SGMR | 8 S | 2313.0E | 2314.0 | 1.0D | 100.0 | | | QL=1 ST=2 TYP=3 |
| | | 23 | [| 100 GORK | 44 NS | 0230.0E | | 570.0D | | 10.0 |
| 100 HIRA | 43 NS | | | 0307.3 | 0328.0 | 158.0 | 340.0 | | 25.0 | |
| 260 ONDR | 44 NS | | | 0530.0E | 0634.8 | 620.0D | 180.0 | | | |
| [| 204 IZMI | | 43 NS | 0600.0 | | 360.0 | 50.0 | | | |
| | 127 TORN | | 44 NS | 0620.0E | 1203.9 | 560.0D | 500.0 | | 13.0 | V=1 |
| [| 245 LEAR | | 43 NS | 0630.0 | 0637.0 | 8.0 | 71.0 | | | QL=1 ST=2 TYP=1 |
| | 245 SVTO | | 43 NS | 0630.0 | 0937.0 | 242.0 | 190.0 | | | QL=1 ST=2 TYP=1 |
| [| 245 SGMR | | 44 NS | 0930.0E | 1003.0 | 76.0D | 190.0 | | | QL=1 ST=3 TYP=1 |
| | 245 SGMR | | 44 NS | 0944.0E | 1003.0 | 62.0D | 190.0 | | | QL=1 ST=3 TYP=1 |
| [| 245 SGMR | | 43 NS | 1551.0 | 2138.0 | 489.0 | 870.0 | | | QL=1 ST=2 TYP=1 |
| | 245 PALE | | 44 NS | 1640.0E | 1823.0 | 739.0D | 290.0 | | | QL=1 ST=2 TYP=1 |
| [| 200 HIRA | | 44 NS | 1925.0E | 0743.0 | 860.0D | 38.0 | | 14.0 | MR |
| | 410 SGMR | | 44 NS | 2128.0E | 2128.0 | 47.0D | 72.0 | | | QL=1 ST=3 TYP=1 |
| [| 2840 PEKG | | 22 GRF | 0007.0 | 0011.8 | 12.0 | 15.2 | | | |
| | 410 LEAR | | 8 S | 0010.0E | 0010.0 | 2.0D | 310.0 | | | QL=1 ST=2 TYP=3 |
| [| 500 HIRA | 41 F | 0010.5 | 0010.8 | 2.5 | 20.0 | | | WR | |
| | 8800 LEAR | 8 S | 0011.0E | 0011.0 | 1.0D | 40.0 | | | QL=1 ST=2 TYP=3 | |
| [| 15400 LEAR | 8 S | 0011.0E | 0011.0 | 1.0D | 39.0 | | | QL=1 ST=2 TYP=3 | |
| | 4995 LEAR | 8 S | 0011.0E | 0011.0 | 1.0D | 20.0 | | | QL=1 ST=2 TYP=3 | |
| [| 2840 PEKG | 20 GRF | 0037.0 | 0042.0 | 36.0 | 6.5 | | | | |
| | 2840 PEKG | 23 GRF | 0122.0 | 0236.0 | | 25.0 | | | | |
| [| 8800 LEAR | 4 S/F | 0134.0E | 0135.0 | 3.0D | 46.0 | | | QL=1 ST=2 TYP=3 | |
| | 245 LEAR | 8 S | 0134.0E | 0135.0 | 2.0D | 45.0 | | | QL=1 ST=2 TYP=3 | |
| [| 4995 LEAR | 4 S/F | 0134.0E | 0135.0 | 3.0D | 29.0 | | | QL=1 ST=2 TYP=3 | |
| | 2695 LEAR | 4 S/F | 0134.0E | 0135.0 | 3.0D | 17.0 | | | QL=1 ST=2 TYP=3 | |
| [| 1415 LEAR | 8 S | 0134.0E | 0135.0 | 2.0D | 3.0 | | | QL=1 ST=2 TYP=3 | |
| | 610 LEAR | 8 S | 0134.0E | 0135.0 | 2.0D | 190.0 | | | QL=1 ST=2 TYP=3 | |
| [| 2840 PEKG | 20 GRF | 0134.0 | 0135.8 | 11.0 | 16.8 | | | | |
| | 15400 LEAR | 8 S | 0135.0E | 0135.0 | 1.0D | 46.0 | | | QL=1 ST=2 TYP=3 | |
| [| 410 LEAR | 8 S | 0135.0E | 0135.0 | 1.0D | 90.0 | | | QL=1 ST=2 TYP=3 | |
| | 610 PALE | 8 S | 0135.0E | 0135.0 | U | 200.0 | | | QL=1 ST=2 TYP=3 | |
| [| 8800 PALE | 8 S | 0135.0E | 0135.0 | U | 59.0 | | | QL=1 ST=2 TYP=3 | |
| | 245 LEAR | 8 S | 0202.0E | 0202.0 | 1.0D | 220.0 | | | QL=1 ST=2 TYP=3 | |
| [| 200 HIRA | 8 S | 0202.3 | 0202.4 | 0.7 | 850.0 | | | 0 | |
| | 950 GORK | 46 C | 0304.5 | 0305.0 | 3.2 | 2.0 | | | | |
| [| 950 GORK | 46 C | 0304.5 | 0307.1 | | 3.0 | | | | |
| | 650 GORK | 46 C | 0304.5 | 0307.4 | | 7.0 | | | | |
| [| 650 GORK | 46 C | 0304.5 | 0304.9 | 3.5 | 6.0 | | | | |
| | 245 LEAR | 8 S | 0320.0E | 0321.0 | 1.0D | 110.0 | | | QL=1 ST=2 TYP=3 | |
| [| 100 GORK | 41 F | 0327.0 | 0333.1 | 33.5 | 849.0 | | | | |
| | 9100 GORK | 23 GRF | 0327.0 | 0430.2 | 487.5 | 21.0 | | | | |
| [| 100 GORK | 41 F | 0327.0 | 0338.4 | | 1471.0 | | | | |
| | 100 GORK | 41 F | 0327.0 | 0358.5 | | 905.0 | | | | |
| [| 650 GORK | 46 C | 0334.2 | 0337.2 | | 4.0 | | | | |
| | 650 GORK | 46 C | 0334.2 | 0335.6 | 3.3 | 12.0 | | | | |
| [| 950 GORK | 23 GRF | 0334.8 | 0430.0 | 91.2 | 3.0 | | | | |
| | 2950 GORK | 21 GRF | 0346.0 | 0429.2 | 151.5 | 12.0 | | | | |
| [| 245 LEAR | 8 S | 0348.0E | 0348.0 | U | 75.0 | | | QL=1 ST=2 TYP=3 | |
| | 245 PALE | 8 S | 0348.0E | 0348.0 | U | 110.0 | | | QL=1 ST=2 TYP=3 | |
| [| 245 SVTO | 8 S | 0348.0E | 0348.0 | U | 60.0 | | | QL=1 ST=2 TYP=3 | |
| | 650 GORK | 23 GRF | 0351.2 | 0352.9 | 11.8 | 1.0 | | | | |
| [| 9300 KISV | 2 S/F | 0352.5 | 0354.0 | 3.1 | 16.0 | | | | |
| | 9300 KISV | 2 S/F | 0352.5 | 0353.7 | 5.0 | 20.0 | | | | |
| [| 9100 GORK | 1 S | 0352.7 | 0354.0 | 2.9 | 12.0 | | | | |

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

103
Jun 89

JUNE 1989

| Day | Freq | Sta | Type | Start (UT) | Time of Maximum (UT) | Duration (Min) | Flux Density | | Int | Remarks |
|-------|-------|-------|---------|------------|----------------------|----------------|------------------------|------|-----------------|-----------------|
| | | | | | | | Peak (10 -22 W/m 2 Hz) | Mean | | |
| 23 | 5900 | KISV | 2 S/F | 0352.7 | 0354.0 | 3.9 | 11.0 | | | |
| | 15000 | KISV | 2 S/F | 0352.7 | 0354.4 | | | | | |
| | 950 | GORK | 2 S/F | 0357.3 | 0401.0 | 4.7 | 9.0 | | | |
| | 9100 | GORK | 45 C | 0358.6 | 0401.0 | | 12.0 | | | |
| | 9300 | KISV | 45 C | 0358.6 | 0401.2 | | 16.0 | | | |
| | 9100 | GORK | 45 C | 0358.6 | 0359.5 | 4.4 | 17.0 | | | |
| | 15000 | KISV | 45 C | 0358.6 | 0401.6 | | 10.0 | | | |
| | 15000 | KISV | 45 C | 0358.6 | 0359.7 | 4.8 | 12.0 | | | |
| | 5900 | KISV | 45 C | 0358.7 | 0401.2 | | 12.0 | | | |
| | 5900 | KISV | 45 C | 0358.7 | 0359.7 | 4.9 | 11.0 | | | |
| | 2950 | GORK | 1 S | 0358.7 | 0400.8 | 4.1 | 7.0 | | | |
| | 245 | PALE | 8 S | 0359.0E | 0359.0 | U | 310.0 | | | QL=1 ST=2 TYP=3 |
| | 245 | SVTO | 8 S | 0359.0E | 0359.0 | U | 220.0 | | | QL=1 ST=2 TYP=3 |
| | 650 | GORK | 4 S/F | 0359.3 | 0400.8 | 2.4 | 34.0 | | | |
| | 2840 | PEKG | 1 S | 0400.4 | 0400.9 | 4.00 | 9.1 | | | |
| | 5900 | KISV | 45 C | 0426.1 | 0427.3 | | 9.0 | | | |
| | 9300 | KISV | 2 S/F | 0426.1 | 0429.4 | 8.3 | 17.0 | | | |
| | 5900 | KISV | 45 C | 0426.1 | 0429.5 | 6.7 | 10.0 | | | |
| | 100 | GORK | 41 F | 0427.0 | 0457.1 | | 566.0 | | | |
| | 100 | GORK | 41 F | 0427.0 | 0445.1 | | 566.0 | | | |
| | 100 | GORK | 41 F | 0427.0 | 0430.1 | 33.5 | 905.0 | | | |
| | 2840 | PEKG | 1 S | 0428.6 | 0429.1 | 1.0 | 8.1 | | | |
| | 245 | LEAR | 8 S | 0429.0E | 0429.0 | 1.00 | 64.0 | | | QL=1 ST=2 TYP=3 |
| | 245 | SVTO | 8 S | 0429.0E | 0429.0 | 1.00 | 77.0 | | | QL=1 ST=2 TYP=3 |
| | 950 | GORK | 4 S/F | 0434.5 | 0435.8 | 2.7 | 25.0 | | | |
| | 650 | GORK | 21 GRF | 0442.4 | 0452.1 | 20.1U | 2.0 | | | |
| | 245 | PALE | 8 S | 0451.0E | 0451.0 | U | 190.0 | | | QL=1 ST=2 TYP=3 |
| | 950 | GORK | 46 C | 0455.5 | 0457.0 | 3.9 | 48.0 | | | |
| | 950 | GORK | 46 C | 0455.5 | 0458.1 | | 27.0 | | | |
| | 410 | LEAR | 8 S | 0456.0E | 0456.0 | 1.00 | 89.0 | | | QL=1 ST=2 TYP=3 |
| | 610 | LEAR | 8 S | 0456.0E | 0457.0 | 2.00 | 98.0 | | | QL=1 ST=2 TYP=3 |
| | 2695 | LEAR | 8 S | 0456.0E | 0457.0 | 2.00 | 40.0 | | | QL=1 ST=2 TYP=3 |
| | 245 | LEAR | 49 GB | 0456.0E | 0456.0 | 1.00 | 860.0 | | | QL=1 ST=2 TYP=6 |
| | 4995 | LEAR | 8 S | 0456.0E | 0456.0 | 1.00 | 20.0 | | | QL=1 ST=2 TYP=3 |
| | 245 | PALE | 49 GB | 0456.0E | 0456.0 | 1.00 | 1200.0 | | | QL=1 ST=2 TYP=6 |
| | 410 | PALE | 8 S | 0456.0E | 0456.0 | 1.00 | 130.0 | | | QL=1 ST=2 TYP=3 |
| | 410 | SVTO | 8 S | 0456.0E | 0456.0 | 1.00 | 130.0 | | | QL=1 ST=2 TYP=3 |
| | 245 | SVTO | 49 GB | 0456.0E | 0456.0 | 1.00 | 950.0 | | | QL=1 ST=2 TYP=6 |
| | 1415 | SVTO | 8 S | 0456.0E | 0457.0 | 2.00 | 39.0 | | | QL=1 ST=2 TYP=3 |
| | 2695 | SVTO | 8 S | 0456.0E | 0457.0 | 1.00 | 33.0 | | | QL=1 ST=2 TYP=3 |
| | 200 | HIRA | 45 C | 0456.0 | 0456.2 | 1.5 | 205.0 | | | 0 |
| | 3100 | CRIM | 45 C | 0456.4 | 0457.0 | 2.0 | 27.0 | 9.0 | | |
| | 3100 | CRIM | 45 C | 0456.4 | 0458.0 | | 18.4 | | | |
| | 9100 | GORK | 1 S | 0456.4 | 0456.8 | 2.3 | 10.0 | | | |
| | 650 | GORK | 4 S/F | 0456.5 | 0457.2 | 2.9 | 130.0 | | | |
| | 9300 | KISV | 2 S/F | 0456.6 | 0457.0 | 2.7 | 11.0 | | | |
| | 2950 | GORK | 45 C | 0456.6 | 0458.1 | | 18.0 | | | |
| | 5900 | KISV | 2 S/F | 0456.6 | 0457.1 | 2.8 | 22.0 | | | |
| | 2950 | GORK | 45 C | 0456.6 | 0457.2 | 2.6 | 26.0 | | | |
| | 500 | HIRA | 46 C | 0456.7 | 0456.8 | 2.7 | 150.0 | | | MR |
| 2840 | PEKG | 5 S | 0456.8 | 0457.4 | 20.7 | 61.2 | | | | |
| 610 | PALE | 8 S | 0457.0E | 0457.0 | U | 92.0 | | | QL=1 ST=2 TYP=3 | |
| 950 | GORK | 4 S/F | 0533.8 | 0534.0 | 0.7 | 14.0 | | | | |
| 650 | GORK | 1 S | 0533.9 | 0540.0 | 6.5 | | | | | |
| 2840 | PEKG | 1 S | 0535.0 | 0536.0 | 1.5 | 7.2 | | | | |
| 9100 | GORK | 1 S | 0550.5 | 0552.0 | 2.6 | 12.0 | | | | |
| 15000 | KISV | 2 S/F | 0550.5 | 0552.2 | 6.7 | 16.0 | | | | |
| 2840 | PEKG | 1 S | 0550.5 | 0551.5 | 9.5 | 6.3 | | | | |
| 9300 | KISV | 2 S/F | 0550.7 | 0552.3 | 5.7 | 17.0 | | | | |
| 5900 | KISV | 2 S/F | 0550.9 | 0551.6 | 5.5 | 13.0 | | | | |
| 9300 | KISV | 45 C | 0604.6 | 0607.2 | | 10.0 | | | | |
| 9300 | KISV | 45 C | 0604.6 | 0605.5 | 4.2 | 10.0 | | | | |
| 950 | GORK | 4 S/F | 0605.0E | 0606.8 | 4.00 | 45.0 | | | | |
| 650 | GORK | 46 C | 0605.1E | 0605.2 | 2.40 | 5.0 | | | | |
| 650 | GORK | 46 C | 0605.1E | 0606.8 | | 4.0 | | | | |
| 245 | SVTO | 8 S | 0612.0E | 0613.0 | 1.00 | 60.0 | | | QL=1 ST=2 TYP=3 | |
| 3100 | CRIM | 1 S | 0612.5 | 0613.0 | 1.0 | 5.4 | 2.0 | | | |
| 950 | GORK | 2 S/F | 0612.5 | 0613.0 | 0.9 | 10.0 | | | | |
| 9300 | KISV | 1 S | 0612.6 | 0613.1 | 1.0 | 12.0 | | | | |

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

JUNE 1989

| Day | Freq | Sta | Type | Start (UT) | Time of Maximum (UT) | Duration (Min) | Flux Density | | Int | Remarks |
|------|-------|--------|---------|------------|----------------------|----------------|------------------------|------|-----------------|-----------------|
| | | | | | | | Peak (10 -22 W/m 2 Hz) | Mean | | |
| 23 | 2950 | GORK | 1 S | 0612.7 | 0613.0 | 0.7 | 5.0 | | | |
| | 5900 | KISV | 1 S | 0612.7 | 0613.1 | 0.9 | 10.0 | | | |
| | 650 | GORK | 23 GRF | 0612.8 | 0613.0 | 23.2 | 6.0 | | | |
| | 650 | GORK | 46 C | 0622.5 | 0624.2 | 4.3 | 8.0 | | | |
| | 650 | GORK | 46 C | 0622.5 | 0625.5 | | 12.0 | | | |
| | 600 | HUMN | 4 S/F | 0656.7 | 0657.0 | 3.0 | 40.0 | 10.0 | | |
| | 2840 | PEKG | 1 S | 0708.0 | 0709.6 | 4.0 | 2.7 | | | |
| | 5900 | KISV | 2 S/F | 0709.0 | 0709.7 | 2.5 | 4.0 | | | |
| | 810 | KRAK | 8 S | 0710.0 | 0710.0 | 0.1 | 42.0 | | | |
| | 5900 | KISV | 22 GRF | 0720.5 | 0722.1 | 11.1 | 8.0 | | | |
| | 2840 | PEKG | 1 S | 0720.6 | 0721.7 | 5.4 | 6.3 | | | |
| | 3100 | CRIM | 1 S | 0721.0 | 0721.9 | 2.0 | 5.5 | 2.0 | | |
| | 2950 | GORK | 1 S | 0721.1 | 0721.8 | 1.9 | 5.0 | | | |
| | 808 | ONDR | 3 S | 0747.8 | 0748.4 | 2.0 | 159.0 | | | |
| | 410 | LEAR | 49 GB | 0748.0E | 0748.0 | 1.00 | 740.0 | | | QL=1 ST=2 TYP=6 |
| | 2695 | LEAR | 8 S | 0748.0E | 0748.0 | 1.00 | 13.0 | | | QL=1 ST=2 TYP=3 |
| | 15400 | LEAR | 8 S | 0748.0E | 0749.0 | 1.00 | 30.0 | | | QL=1 ST=2 TYP=3 |
| | 4995 | LEAR | 8 S | 0748.0E | 0748.0 | 1.00 | 25.0 | | | QL=1 ST=2 TYP=3 |
| | 8800 | LEAR | 8 S | 0748.0E | 0749.0 | 1.00 | 22.0 | | | QL=1 ST=2 TYP=3 |
| | 3000 | POTS | 3 S | 0748.0 | 0748.8 | 2.0 | 15.0 | | | |
| | 9500 | POTS | 3 S | 0748.0 | 0748.9 | 2.0 | 19.0 | | | |
| | 950 | GORK | 4 S/F | 0748.1 | 0748.6 | 1.1 | 264.0 | | | |
| | 2950 | GORK | 2 S/F | 0748.2 | 0748.7 | 1.8 | 14.0 | | | |
| | 810 | KRAK | 48 C | 0748.2 | 0748.8U | 1.0 | 315.00 | | | |
| | 9100 | GORK | 2 S/F | 0748.2 | 0748.9 | 1.4 | 22.0 | | | |
| | 3013 | IZMI | 5 S | 0748.3 | 0748.8 | 2.0 | 20.0 | 10.0 | | |
| | 5900 | KISV | 2 S/F | 0748.3 | 0748.9 | 2.2 | 16.0 | | | |
| | 15000 | KISV | 2 S/F | 0748.4 | 0749.2 | 1.7 | 26.0 | | | |
| | 9300 | KISV | 2 S/F | 0748.4 | 0748.9 | 1.4 | 24.0 | | | |
| | 245 | LEAR | 8 S | 0753.0E | 0753.0 | 1.00 | 61.0 | | | QL=1 ST=2 TYP=3 |
| | 245 | LEAR | 8 S | 0800.0E | 0801.0 | 2.00 | 220.0 | | | QL=1 ST=2 TYP=3 |
| | 245 | SVTO | 8 S | 0801.0E | 0801.0 | 1.00 | 260.0 | | | QL=1 ST=2 TYP=3 |
| | 200 | HIRA | 46 C | 0801.0 | 0801.3 | 1.8 | 400.0 | | | 0 |
| | 245 | LEAR | 8 S | 0807.0E | 0807.0 | 1.00 | 100.0 | | | QL=1 ST=3 TYP=3 |
| | 810 | KRAK | 27 RF | 0816.3 | 0826.3 | 12.5 | 20.0 | 8.0 | | |
| | 808 | ONDR | 7 C | 0822.5 | 0826.5 | 7.0 | 28.0 | | | |
| | 245 | LEAR | 8 S | 0824.0E | 0824.0 | 1.00 | 51.0 | | | QL=1 ST=2 TYP=3 |
| | 950 | GORK | 1 S | 0825.1 | 0825.9 | 1.9 | 2.0 | | | |
| | 808 | ONDR | 41 F | 0904.5 | 0912.5 | 13.0 | 39.0 | | | |
| | 430 | KRAK | 8 S | 0912.0 | 0913.0 | 1.5 | 230.00 | | | |
| | 245 | LEAR | 8 S | 0912.0E | 0913.0 | 1.00 | 32.0 | | | QL=1 ST=2 TYP=3 |
| | 2950 | GORK | 1 S | 0912.0 | 0913.4 | 1.9 | 5.0 | | | |
| | 9300 | KISV | 2 S/F | 0912.1 | 0913.5 | 4.4 | 11.0 | | | |
| | 410 | LEAR | 8 S | 0913.0E | 0913.0 | U | 53.0 | | | QL=1 ST=2 TYP=3 |
| | 4995 | LEAR | 8 S | 0913.0E | 0913.0 | U | 15.0 | | | QL=1 ST=2 TYP=3 |
| | 245 | SVTO | 8 S | 0913.0E | 0913.0 | U | 60.0 | | | QL=1 ST=2 TYP=3 |
| | 410 | SVTO | 8 S | 0913.0E | 0913.0 | U | 47.0 | | | QL=1 ST=2 TYP=3 |
| | 3100 | CRIM | 1 S | 0913.0 | 0913.4 | 1.0 | 2.0 | 0.7 | | |
| | 410 | SVTO | 8 S | 0942.0E | 0942.0 | U | 90.0 | | | QL=1 ST=2 TYP=3 |
| | 245 | SVTO | 8 S | 1011.0E | 1011.0 | U | 350.0 | | | QL=1 ST=2 TYP=3 |
| 430 | KRAK | 1 S | 1020.5 | 1021.8 | 1.3 | 11.0 | 5.0 | | | |
| 536 | ONDR | 42 SER | 1035.0 | 1427.7 | 280.0 | 64.0 | | | | |
| 810 | KRAK | 8 S | 1125.6 | 1125.7 | 0.2 | 10.0 | | | | |
| 9300 | KISV | 2 S/F | 1245.5 | 1246.4 | 2.2 | 15.0 | | | | |
| 5900 | KISV | 2 S/F | 1245.5 | 1246.4 | 2.4 | 7.0 | | | | |
| 9500 | POTS | 3 S | 1246.0 | 1246.2 | 1.5 | 13.0 | | | | |
| 3000 | POTS | 3 S | 1247.0 | 1248.0 | 2.0 | 9.0 | | | | |
| 610 | SGMR | 49 GB | 1324.0E | 1332.0 | 33.00 | 570.0 | | | QL=1 ST=2 TYP=7 | |
| 9300 | KISV | 45 C | 1334.8 | 1335.4 | 4.5 | 9.0 | | | | |
| 9300 | KISV | 45 C | 1334.8 | 1337.5 | | 9.0 | | | | |
| 245 | PALE | 8 S | 1639.0E | 1639.0 | U | 83.0 | | | QL=1 ST=2 TYP=3 | |
| 245 | PALE | 8 S | 1708.0E | 1709.0 | 2.00 | 260.0 | | | QL=1 ST=2 TYP=3 | |
| 245 | PALE | 8 S | 1727.0E | 1727.0 | U | 230.0 | | | QL=1 ST=2 TYP=3 | |
| 245 | PALE | 8 S | 1812.0E | 1812.0 | 1.00 | 280.0 | | | QL=1 ST=2 TYP=3 | |
| 245 | SGMR | 8 S | 1812.0E | 1812.0 | 2.00 | 250.0 | | | QL=1 ST=2 TYP=3 | |
| 245 | PALE | 8 S | 1835.0E | 1835.0 | 1.00 | 340.0 | | | QL=1 ST=2 TYP=3 | |
| 245 | SGMR | 8 S | 1835.0E | 1835.0 | 1.00 | 290.0 | | | QL=1 ST=2 TYP=3 | |
| 200 | HIRA | 42 SER | 2055.0 | 2105.9 | 36.3 | 95.0 | | | SR | |
| 245 | SGMR | 8 S | 2059.0E | 2059.0 | U | 100.0 | | | QL=1 ST=2 TYP=3 | |

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

105
Jun 89

JUNE 1989

| Day | Freq | Sta | Type | Start (UT) | Time of Maximum (UT) | Duration (Min) | Flux Density | | Int | Remarks |
|------|-------|--------|---------|---------------|----------------------------|-------------------|---------------------------|-------|-----------------|-----------------|
| | | | | | | | Peak (10 -22 W/m 2 Hz) | Mean | | |
| 23 | 200 | HIRA | 42 SER | 2214.0 | 2356.0 | 187.0 | 920.0 | | | 0 |
| | 245 | SGMR | 8 S | 2238.0E | 2238.0 | 1.00 | 350.0 | | | QL=1 ST=2 TYP=3 |
| | 245 | SGMR | 8 S | 2244.0E | 2244.0 | 2.00 | 480.0 | | | QL=1 ST=2 TYP=3 |
| | 245 | LEAR | 49 GB | 2341.0E | 2342.0 | 1.00 | 620.0 | | | QL=1 ST=2 TYP=6 |
| | 200 | HIRA | 8 S | 2341.1 | 2341.6 | 0.8 | 2300.0 | | | 0 |
| | 245 | PALE | 49 GB | 2342.0E | 2342.0 | U | 1000.0 | | | QL=1 ST=2 TYP=6 |
| | 245 | SGMR | 49 GB | 2342.0E | 2342.0 | U | 810.0 | | | QL=1 ST=2 TYP=6 |
| | 100 | HIRA | 42 SER | 2352.1 | 2356.8 | 6.0 | 1000.00 | | | |
| | 245 | LEAR | 4 S/F | 2354.0E | 2356.0 | 4.00 | 430.0 | | | QL=1 ST=2 TYP=3 |
| | 500 | HIRA | 41 F | 2355.2 | 2356.7 | 3.5 | 15.0 | | | 0 |
| | 410 | LEAR | 8 S | 2356.0E | 2356.0 | 1.00 | 46.0 | | | QL=1 ST=2 TYP=3 |
| | 245 | PALE | 49 GB | 2356.0E | 2356.0 | 1.00 | 750.0 | | | QL=1 ST=2 TYP=6 |
| | 245 | SGMR | 8 S | 2356.0E | 2357.0 | 1.00 | 340.0 | | | QL=1 ST=2 TYP=3 |
| 24 | 100 | GORK | 44 NS | 0233.0E | | 417.00 | | | | |
| | 234 | POTS | 44 NS | 0530.0E | 0842.0 | 536.00 | 45.0 | | | |
| | 260 | ONDR | 44 NS | 0540.0E | 0617.0 | 610.00 | 178.0 | | | |
| | 245 | SVTO | 44 NS | 0559.0E | 0559.0 | 19.00 | 83.0 | | | QL=1 ST=2 TYP=1 |
| | 204 | IZMI | 43 NS | 0600.0 | | 360.0 | 35.0 | | | |
| | 127 | TORN | 44 NS | 0620.0E | | 560.00 | | 14.0 | | V=1 |
| | 245 | SGMR | 44 NS | 1159.0E | 2114.0 | 691.00 | 320.0 | | | QL=1 ST=2 TYP=1 |
| | 245 | SVTO | 43 NS | 1343.0 | 1343.0 | 107.00 | 53.0 | | | QL=1 ST=2 TYP=1 |
| | 245 | PALE | 44 NS | 1629.0E | 2036.0 | 724.00 | 240.0 | | | QL=1 ST=2 TYP=1 |
| | 245 | SVTO | 43 NS | 1700.0 | 1735.0 | 59.00 | 120.0 | | | QL=1 ST=2 TYP=1 |
| | 100 | HIRA | 44 NS | 1925.0E | 0825.0 | 860.00 | 130.0 | 34.0 | | |
| | 200 | HIRA | 44 NS | 1925.0E | 2030.0 | 860.00 | 145.0 | 26.0 | | SR |
| | 245 | LEAR | 4 S/F | 0213.0E | 0214.0 | 6.00 | 410.0 | | | QL=1 ST=2 TYP=3 |
| | 100 | HIRA | 41 F | 0213.9 | 0227.3 | 53.5 | 1000.00 | | | |
| | 200 | HIRA | 42 SER | 0213.9 | 0214.7 | 7.9 | 1370.0 | | | 0 |
| | 245 | PALE | 49 GB | 0214.0E | 0214.0 | 1.00 | 680.0 | | | QL=1 ST=2 TYP=6 |
| | 610 | LEAR | 8 S | 0217.0E | 0217.0 | U | 90.0 | | | QL=1 ST=2 TYP=3 |
| | 245 | PALE | 8 S | 0217.0E | 0217.0 | 1.00 | 240.0 | | | QL=1 ST=2 TYP=3 |
| | 9100 | GORK | 21 GRF | 0249.0E | 0328.7 | 108.00 | 18.0 | | | |
| | 2950 | GORK | 21 GRF | 0318.5 | 0329.2 | 26.5 | 9.0 | | | |
| | 8800 | LEAR | 4 S/F | 0319.0E | 0320.0 | 11.00 | 270.0 | | | QL=1 ST=2 TYP=3 |
| | 4995 | LEAR | 4 S/F | 0319.0E | 0320.0 | 10.00 | 310.0 | | | QL=1 ST=2 TYP=3 |
| | 2695 | LEAR | 4 S/F | 0319.0E | 0320.0 | 10.00 | 190.0 | | | QL=1 ST=2 TYP=3 |
| | 9100 | GORK | 46 C | 0319.2 | 0324.7 | | 36.0 | | | |
| | 9100 | GORK | 46 C | 0319.2 | 0320.7 | 9.4 | 199.0 | | | |
| | 2950 | GORK | 3 S | 0319.4 | 0320.7 | 4.1 | 164.0 | | | |
| | 15400 | LEAR | 4 S/F | 0320.0E | 0320.0 | 8.00 | 140.0 | | | QL=1 ST=2 TYP=3 |
| | 8800 | PALE | 8 S | 0320.0E | 0320.0 | 1.00 | 230.0 | | | QL=1 ST=2 TYP=3 |
| | 2695 | PALE | 8 S | 0320.0E | 0320.0 | 1.00 | 160.0 | | | QL=1 ST=2 TYP=3 |
| | 15400 | PALE | 8 S | 0320.0E | 0320.0 | 1.00 | 93.0 | | | QL=1 ST=2 TYP=3 |
| | 4995 | PALE | 8 S | 0320.0E | 0320.0 | 2.00 | 250.0 | | | QL=1 ST=2 TYP=3 |
| | 950 | GORK | 4 S/F | 0321.1 | 0322.2 | 1.1 | 42.0 | | | |
| | 2950 | GORK | 4 S/F | 0324.2 | 0324.7 | 4.8 | 30.0 | | | |
| | 200 | HIRA | 42 SER | 0507.3 | 0614.2 | 71.0 | 295.0 | | | 0 |
| | 204 | IZMI | 5 S | 0614.0 | 0614.4 | 0.8 | 250.0 | 150.0 | | |
| | 430 | KRAK | 41 F | 0711.0 | 0743.5 | 48.5 | 20.0 | 3.0 | | |
| | 245 | LEAR | 8 S | 0712.0E | 0712.0 | U | 100.0 | | | QL=1 ST=2 TYP=3 |
| | 245 | SVTO | 8 S | 0712.0E | 0712.0 | U | 87.0 | | | QL=1 ST=2 TYP=3 |
| | 810 | KRAK | 8 S | 0721.4 | 0721.5 | 0.3 | 7.0 | | | |
| | 200 | HIRA | 42 SER | 0731.7 | 0731.8 | 25.0 | 300.0 | | | 0 |
| | 430 | KRAK | 8 S | 0834.5 | 0834.5 | 0.1 | 63.0 | | | |
| 200 | HIRA | 42 SER | 0841.2 | 0855.0 | 38.0 | 435.0 | | | MR | |
| 204 | IZMI | 5 S | 0909.0 | 0909.2 | 0.6 | 350.0 | 200.0 | | | |
| 245 | SGMR | 8 S | 1110.0E | 1110.0 | 1.00 | 78.0 | | | QL=1 ST=2 TYP=3 | |
| 33 | UPIC | 4 S/F | 1115.2 | 1115.3 | 0.6 | | | | | |
| 33 | UPIC | 4 S/F | 1126.6 | 1126.7 | 0.9 | | | | | |
| 245 | SGMR | 8 S | 1201.0E | 1202.0 | 1.00 | 130.0 | | | QL=1 ST=2 TYP=3 | |
| 245 | SVTO | 8 S | 1217.0E | 1217.0 | 1.00 | 91.0 | | | QL=1 ST=2 TYP=3 | |
| 9300 | KISV | 2 S/F | 1313.9 | 1314.1 | 1.3 | 6.0 | | | | |
| 536 | ONDR | 42 SER | 1343.4 | 1344.9 | 60.0 | 22.0 | | | | |
| 2800 | OTTA | 22 GRF | 1350.0 | 1356.5 | 24.0 | 15.2 | 4.0 | | | |
| 9500 | POTS | 42 SER | 1350.0 | 1356.0 | 10.0 | 13.0 | | | | |
| 3000 | POTS | 42 SER | 1350.0 | 1356.3 | 10.0 | 17.0 | | | | |
| 1470 | POTS | 1 S | 1350.0 | 1350.3 | 10.0 | 5.0 | | | | |
| 9300 | KISV | 2 S/F | 1355.2 | 1356.2 | 3.6 | 16.0 | | | | |

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

JUNE 1989

| Day | Freq | Sta | Type | Start (UT) | Time of Maximum (UT) | Duration (Min) | Flux Density | | Int | Remarks |
|------|----------|----------|---------|------------|----------------------|----------------|--|-----------------|-----------------|-----------------|
| | | | | | | | Peak (10 ⁻²² W/m ² Hz) | Mean | | |
| 24 | 5900 | KISV | 2 S/F | 1355.3 | 1356.1 | 2.0 | 7.0 | | | |
| | | 245 SGMR | 8 S | 1417.0E | 1417.0 | 1.00 | 140.0 | | QL=1 ST=2 TYP=3 | |
| | 245 | SVTO | 8 S | 1417.0E | 1417.0 | 1.00 | 110.0 | | QL=1 ST=2 TYP=3 | |
| | | 410 SGMR | 8 S | 1506.0E | 1506.0 | U | 64.0 | | QL=1 ST=2 TYP=3 | |
| | 245 SGMR | 8 S | 1512.0E | 1512.0 | 1.00 | 82.0 | | QL=1 ST=2 TYP=3 | | |
| | 410 SGMR | 8 S | 1513.0E | 1513.0 | U | 88.0 | | QL=1 ST=2 TYP=3 | | |
| | 245 | SVTO | 8 S | 1513.0E | 1513.0 | U | 60.0 | | QL=1 ST=2 TYP=3 | |
| | | 410 SGMR | 8 S | 1705.0E | 1705.0 | U | 110.0 | | QL=1 ST=2 TYP=3 | |
| | 245 SGMR | 8 S | 1705.0E | 1705.0 | U | 71.0 | | QL=1 ST=2 TYP=3 | | |
| | 245 PALE | 8 S | 1715.0E | 1715.0 | 1.00 | 140.0 | | QL=1 ST=3 TYP=3 | | |
| | 2800 | OTTA | 3 S | 1831.5 | 1832.5 | 4.0 | 29.0 | 8.0 | | |
| | 245 PALE | 8 S | 1847.0E | 1847.0 | U | 150.0 | | QL=1 ST=2 TYP=3 | | |
| | 245 PALE | 8 S | 1907.0E | 1907.0 | U | 90.0 | | QL=1 ST=2 TYP=3 | | |
| | 410 SGMR | 8 S | 1910.0E | 1910.0 | U | 110.0 | | QL=1 ST=3 TYP=3 | | |
| | 245 PALE | 8 S | 1912.0E | 1912.0 | U | 140.0 | | QL=1 ST=2 TYP=3 | | |
| | 245 PALE | 8 S | 2017.0E | 2018.0 | 1.00 | 130.0 | | QL=1 ST=2 TYP=3 | | |
| | 245 PALE | 4 S/F | 2025.0E | 2027.0 | 3.00 | 170.0 | | QL=1 ST=2 TYP=3 | | |
| | 410 SGMR | 8 S | 2037.0E | 2037.0 | U | 63.0 | | QL=1 ST=2 TYP=3 | | |
| | 245 PALE | 8 S | 2113.0E | 2114.0 | 1.00 | 350.0 | | QL=1 ST=2 TYP=3 | | |
| | 200 | HIRA | 46 C | 2113.2 | 2113.7 | 2.6 | 1200.0 | | WR | |
| | 245 | LEAR | 8 S | 2358.0E | 2358.0 | 1.00 | 50.0 | | QL=1 ST=2 TYP=3 | |
| | 25 | 245 | LEAR | 43 NS | 0112.0 | 0112.0 | 283.0 | 200.0 | | QL=1 ST=2 TYP=1 |
| | | 100 | GORK | 44 NS | 0300.0E | | 390.00 | | 20.0 | |
| | | 204 | IZMI | 43 NS | 0600.0 | | 360.0 | 30.0 | | |
| 127 | | TORN | 44 NS | 0620.0E | | 420.00 | | 85.0 | V=1 | |
| 234 | | POTS | 44 NS | 0630.0E | 0928.0 | 510.00 | 32.0 | | | |
| 260 | | ONDR | 44 NS | 0722.0E | 1345.0 | 508.00 | 165.0 | | | |
| 245 | | SGMR | 44 NS | 1001.0E | 1019.0 | 123.00 | 53.0 | | QL=1 ST=2 TYP=1 | |
| 245 | | SGMR | 44 NS | 1344.0E | 1713.0 | 616.00 | 190.0 | | QL=1 ST=3 TYP=1 | |
| 245 | | SVTO | 43 NS | 1432.0 | 1733.0 | 208.00 | 71.0 | | QL=1 ST=2 TYP=1 | |
| 245 | | PALE | 44 NS | 1728.0E | 0209.0 | 521.00 | 110.0 | | QL=1 ST=2 TYP=1 | |
| 100 | | HIRA | 44 NS | 1925.0E | 2120.0 | 860.00 | 270.0 | 132.0 | | |
| 200 | | HIRA | 44 NS | 1925.0E | 0814.0 | 860.00 | 120.0 | 35.0 | | |
| 245 | | LEAR | 8 S | 0001.0E | 0001.0 | 1.00 | 74.0 | | SR | |
| 245 | | LEAR | 8 S | 0001.0E | 0001.0 | 1.00 | 74.0 | | QL=1 ST=2 TYP=3 | |
| 245 | | PALE | 8 S | 0001.0E | 0001.0 | 1.00 | 140.0 | | QL=1 ST=2 TYP=3 | |
| 245 | | PALE | 8 S | 0102.0E | 0103.0 | 1.00 | 110.0 | | QL=1 ST=2 TYP=3 | |
| 245 | | LEAR | 8 S | 0103.0E | 0103.0 | U | 76.0 | | QL=1 ST=2 TYP=3 | |
| 245 | | PALE | 8 S | 0112.0E | 0112.0 | 1.00 | 250.0 | | QL=1 ST=3 TYP=3 | |
| 245 | | PALE | 8 S | 0152.0E | 0152.0 | U | 90.0 | | QL=1 ST=2 TYP=3 | |
| 5900 | | KISV | 22 GRF | 0348.9 | 0350.8 | 11.5 | 19.0 | | | |
| 9300 | | KISV | 22 GRF | 0349.2 | 0351.9 | 15.0 | 14.0 | | | |
| 9100 | | GORK | 20 GRF | 0349.3 | 0350.8 | 9.8 | 8.0 | | | |
| 5900 | | KISV | 2 S/F | 0529.5 | 0530.2 | 3.5 | 7.0 | | | |
| 245 | | LEAR | 8 S | 0619.0E | 0619.0 | U | 52.0 | | QL=1 ST=2 TYP=3 | |
| 204 | | IZMI | 41 F | 0620.5 | 0620.7 | 10.0 | 350.0 | | | |
| 1470 | | POTS | 40 F | 0731.0 | 0733.1 | 3.0 | 6.0 | | | |
| 9300 | | KISV | 4 S/F | 0732.5 | 0733.0 | 2.6 | 31.0 | | | |
| 5900 | | KISV | 4 S/F | 0732.6 | 0733.0 | 2.8 | 23.0 | | | |
| 9500 | | POTS | 3 S | 0732.7 | 0733.0 | 1.8 | 23.0 | | | |
| 9100 | | GORK | 1 S | 0732.8 | 0733.1 | 1.3 | 32.0 | | | |
| 536 | | ONDR | 42 SER | 0750.0 | 1058.6 | 230.0 | 13.0 | | | |
| 5900 | | KISV | 2 S/F | 0816.7 | 0819.6 | 8.7 | 13.0 | | | |
| 9300 | | KISV | 2 S/F | 0818.9 | 0819.5 | 1.9 | 5.0 | | | |
| 200 | | HIRA | 45 C | 0834.8 | 0835.5 | 1.3 | 230.0 | | SR | |
| 245 | | SVTO | 4 S/F | 0849.0E | 0850.0 | 3.00 | 110.0 | | QL=1 ST=2 TYP=3 | |
| 410 | | SVTO | 4 S/F | 0849.0E | 0850.0 | 3.00 | 54.0 | | QL=1 ST=2 TYP=3 | |
| 5900 | | KISV | 2 S/F | 0942.9 | 0943.6 | 2.7 | 5.0 | | | |
| 9300 | | KISV | 2 S/F | 0942.9 | 0943.6 | 2.2 | 4.0 | | | |
| 204 | | IZMI | 41 F | 1018.0 | 1018.5 | 1.0 | 550.0 | | | |
| 245 | | SVTO | 8 S | 1019.0E | 1019.0 | U | 52.0 | | QL=1 ST=2 TYP=3 | |
| 5900 | | KISV | 4 S/F | 1038.0 | 1039.5 | 4.0 | 45.0 | | | |
| 9300 | KISV | 2 S/F | 1038.0 | 1039.5 | 8.8 | 20.0 | | | | |
| 3000 | POTS | 3 S | 1039.0 | 1039.5 | 2.0 | 8.0 | | | | |
| 9500 | POTS | 3 S | 1039.0 | 1039.5 | 2.0 | 13.0 | | | | |
| 430 | KRAK | 42 SER | 1059.0 | 1114.0 | 15.0 | 22.0 | | | | |
| 245 | SGMR | 8 S | 1314.0E | 1314.0 | 1.00 | 52.0 | | QL=1 ST=2 TYP=3 | | |
| 245 | SVTO | 8 S | 1314.0E | 1314.0 | U | 50.0 | | QL=1 ST=2 TYP=3 | | |
| 245 | SGMR | 8 S | 1333.0E | 1333.0 | U | 58.0 | | QL=1 ST=3 TYP=3 | | |

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

107
Jun 89

JUNE 1989

| Day | Freq | Sta | Type | Start (UT) | Time of Maximum (UT) | Duration (Min) | Flux Density Peak (10 ⁻²² W/m ² Hz) | Flux Density Mean (W/m ² Hz) | Int | Remarks |
|------|------|--------|---------|------------|----------------------|----------------|---|---|-----------------|-----------------|
| 25 | 245 | PALE | 8 S | 1640.0E | 1640.0 | 1.00 | 92.0 | | | QL=1 ST=2 TYP=3 |
| | 2800 | OTTA | 3 S | 1849.0 | 1850.0 | 9.0 | 44.0 | 13.0 | | |
| | 245 | PALE | 8 S | 2056.0E | 2057.0 | 1.00 | 210.0 | | | QL=1 ST=2 TYP=3 |
| | 245 | PALE | 8 S | 2116.0E | 2116.0 | 1.00 | 110.0 | | | QL=1 ST=3 TYP=3 |
| 26 | 100 | GORK | 44 NS | 0233.0E | | 567.00 | | 15.0 | | |
| | 245 | SVTO | 43 NS | 0505.0 | 0850.0 | 442.00 | 120.0 | | | QL=1 ST=2 TYP=1 |
| | 204 | IZMI | 43 NS | 0600.0 | | 360.0 | 30.0 | | | |
| | 260 | ONDR | 44 NS | 0600.0E | 1117.3 | 620.00 | 7.0 | | | |
| | 127 | TORN | 44 NS | 0820.0E | | 440.00 | | 210.0 | | V=1 |
| | 245 | SGMR | 44 NS | 1125.0E | 2125.0 | 755.00 | 210.0 | | | QL=1 ST=2 TYP=1 |
| | 245 | PALE | 44 NS | 1631.0E | 2124.0 | 749.00 | 330.0 | | | QL=1 ST=2 TYP=1 |
| | 200 | HIRA | 44 NS | 1925.0E | 2100.0 | 860.00 | 185.0 | 80.0 | | SR |
| | 100 | HIRA | 44 NS | 1925.0E | 0015.0 | 860.00 | 610.0 | 120.0 | | |
| | 245 | LEAR | 44 NS | 2321.0E | 0355.0 | 367.00 | 96.0 | | | QL=1 ST=2 TYP=1 |
| | 245 | LEAR | 8 S | 0207.0E | 0209.0 | 2.00 | 62.0 | | | QL=1 ST=2 TYP=3 |
| | 100 | HIRA | 46 C | 0320.2 | 0320.7U | 1.3 | 1000.00 | | | |
| | 245 | PALE | 4 S/F | 0347.0E | 0350.0 | 6.00 | 86.0 | | | QL=1 ST=2 TYP=3 |
| | 9100 | GORK | 2 S/F | 0357.3 | 0358.3 | 4.6 | 25.0 | | | |
| | 100 | GORK | 41 F | 0415.0 | 0430.1 | | 535.0 | | | |
| | 100 | GORK | 41 F | 0415.0 | 0445.1 | | 428.0 | | | |
| | 100 | GORK | 41 F | 0415.0 | 0415.1 | 30.5 | 535.0 | | | |
| | 245 | PALE | 8 S | 0437.0E | 0437.0 | 1.00 | 140.0 | | | QL=1 ST=2 TYP=3 |
| | 245 | SVTO | 8 S | 0437.0E | 0437.0 | 1.00 | 79.0 | | | QL=1 ST=2 TYP=3 |
| | 245 | LEAR | 8 S | 0504.0E | 0505.0 | 1.00 | 51.0 | | | QL=1 ST=2 TYP=3 |
| | 100 | HIRA | 8 S | 0526.5 | 0527.1 | 0.8 | 700.0 | | | |
| | 245 | LEAR | 8 S | 0550.0E | 0551.0 | 1.00 | 58.0 | | | QL=1 ST=2 TYP=3 |
| | 245 | LEAR | 8 S | 0621.0E | 0622.0 | 1.00 | 60.0 | | | QL=1 ST=2 TYP=3 |
| | 430 | KRAK | 42 SER | 0710.5 | 0850.0 | | 114.0 | | | |
| | 430 | KRAK | 42 SER | 0710.5 | 0801.3 | 347.5 | 53.0 | | | |
| | 430 | KRAK | 42 SER | 0710.5 | 1037.8 | | 230.00 | | | |
| | 810 | KRAK | 2 S/F | 0746.9 | 0746.9 | 1.2 | 13.0 | 8.0 | | |
| | 810 | KRAK | 8 S | 0751.3 | 0751.3 | 0.2 | 12.0 | | | |
| | 536 | ONDR | 41 F | 0755.0 | 1042.0 | 215.0 | 120.0 | | | |
| | 245 | LEAR | 8 S | 0849.0E | 0850.0 | 1.00 | 100.0 | | | QL=1 ST=2 TYP=3 |
| | 1470 | POTS | 3 S | 0919.0 | 0919.7 | 2.5 | 9.0 | | | |
| | 245 | SGMR | 8 S | 1021.0E | 1021.0 | U | 190.0 | | | QL=1 ST=2 TYP=3 |
| | 950 | GORK | 4 S/F | 1021.0 | 1021.2 | 0.5 | 45.0 | | | |
| | 650 | GORK | 4 S/F | 1021.1 | 1021.2 | 0.5 | 2.0 | | | |
| | 810 | KRAK | 8 S | 1021.3 | 1021.3 | 0.4 | 20.0 | | | |
| | 808 | ONDR | 41 F | 1021.3 | 1021.6 | 45.0 | 13.0 | | | |
| | 810 | KRAK | 8 S | 1033.2 | 1033.3 | 0.5 | 51.0 | | | |
| | 950 | GORK | 41 F | 1037.3 | 1049.0 | | 15.0 | | | |
| | 950 | GORK | 41 F | 1037.3 | 1152.5 | | 20.0 | | | |
| | 950 | GORK | 41 F | 1037.3 | 1037.7 | 79.0 | 2.0 | | | |
| 650 | GORK | 41 F | 1037.5 | 1052.3 | | 12.0 | | | | |
| 650 | GORK | 41 F | 1037.6 | 1056.0 | | 12.0 | | | | |
| 650 | GORK | 41 F | 1037.6 | 1049.1 | | 43.0 | | | | |
| 650 | GORK | 41 F | 1037.6 | 1042.1 | 24.3 | 31.0 | | | | |
| 650 | GORK | 41 F | 1037.6 | 1054.9 | | 14.0 | | | | |
| 610 | SGMR | 8 S | 1041.0E | 1042.0 | 1.00 | 58.0 | | | QL=1 ST=2 TYP=3 | |
| 810 | KRAK | 42 SER | 1048.8 | 1049.7 | 12.2 | 23.0 | | | | |
| 100 | GORK | 41 F | 1109.5 | 1112.0 | 16.5 | 642.0 | | | | |
| 100 | GORK | 41 F | 1109.5 | 1123.7 | | 535.0 | | | | |
| 650 | GORK | 22 GRF | 1110.1 | 1126.2 | 22.9 | 3.0 | | | | |
| 245 | SGMR | 8 S | 1123.0E | 1123.0 | 1.00 | 82.0 | | | QL=1 ST=2 TYP=3 | |
| 950 | GORK | 1 S | 1126.0 | 1126.2 | 0.5 | 5.0 | | | | |
| 536 | ONDR | 41 F | 1219.0 | 1322.0 | 64.0 | 84.0 | | | | |
| 410 | SGMR | 8 S | 1343.0E | 1343.0 | U | 180.0 | | | QL=1 ST=1 TYP=3 | |
| 2800 | OTTA | 22 GRF | 1545.0 | 1550.5 | 75.0 | 25.4 | 10.0 | | | |
| 600 | HUMN | 4 S/F | 1549.0 | 1551.0 | 6.0 | 100.0 | 27.0 | | | |
| 410 | SGMR | 4 S/F | 1549.0E | 1550.0 | 7.00 | 380.0 | | | QL=1 ST=3 TYP=5 | |
| 610 | SGMR | 4 S/F | 1549.0E | 1550.0 | 7.00 | 320.0 | | | QL=1 ST=3 TYP=5 | |
| 410 | SVTO | 4 S/F | 1549.0E | 1549.0 | 4.00 | 330.0 | | | QL=1 ST=2 TYP=5 | |
| 610 | SVTO | 8 S | 1550.0E | 1550.0 | 2.00 | 280.0 | | | QL=1 ST=2 TYP=3 | |
| 245 | SVTO | 8 S | 1553.0E | 1553.0 | U | 83.0 | | | QL=1 ST=2 TYP=3 | |
| 245 | SVTO | 8 S | 1608.0E | 1609.0 | 1.00 | 60.0 | | | QL=1 ST=2 TYP=3 | |
| 245 | SVTO | 8 S | 1631.0E | 1632.0 | 1.00 | 72.0 | | | QL=1 ST=2 TYP=3 | |
| 245 | PALE | 8 S | 1704.0E | 1704.0 | 1.00 | 72.0 | | | QL=1 ST=2 TYP=3 | |

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

JUNE 1989

| 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 | L | 245 SVTO | 8 S | 1704.0E | 1704.0 | 1.00 | 76.0 | | | QL=1 ST=2 TYP=3 |
| 27 | | 100 GORK | 44 NS | 0300.0E | | 540.00 | | 20.0 | | QL=1 ST=2 TYP=1 |
| | | 245 SVTO | 44 NS | 0428.0E | 0436.0 | 47.00 | 100.0 | | | |
| | | 260 ONDR | 44 NS | 0530.0E | 0918.2 | 580.00 | 59.0 | | | |
| | | 204 IZMI | 43 NS | 0600.0 | | 360.0 | 20.0 | | | |
| | | 127 TORN | 44 NS | 0620.0E | | 560.00 | | 80.0 | | V=1 |
| | | 200 HIRA | 44 NS | 1925.0E | 2120.0 | 600.00 | 16.0 | 5.0 | | MR |
| | | 100 HIRA | 44 NS | 1925.0E | 2200.0 | 340.00 | 90.0 | 14.0 | | |
| | | 650 GORK | 22 GRF | 0416.5 | 0426.1 | 25.5 | 6.0 | | | |
| | | 100 GORK | 8 S | 0455.3 | 0456.0 | 1.2 | 452.0 | | | |
| | | 9100 GORK | 1 S | 0537.9 | 0538.7 | 4.5 | 5.0 | | | |
| | | 536 ONDR | 42 SER | 0707.4 | 0718.0 | 45.0 | 39.0 | | | |
| | | 245 SGMR | 8 S | 1446.0E | 1446.0 | U | 85.0 | | | QL=/ ST=2 TYP=3 |
| | | 245 PALE | 49 GB | 1642.0E | 1642.0 | U | 660.0 | | | QL=1 ST=2 TYP=6 |
| | | 245 SGMR | 49 GB | 1642.0E | 1642.0 | U | 510.0 | | | QL=1 ST=2 TYP=6 |
| | | 245 SVTO | 49 GB | 1642.0E | 1642.0 | U | 590.0 | | | QL=1 ST=2 TYP=6 |
| | | 245 PALE | 8 S | 2122.0E | 2122.0 | 1.00 | 130.0 | | | QL=1 ST=2 TYP=3 |
| | | 245 SGMR | 8 S | 2122.0E | 2123.0 | 2.00 | 100.0 | | | QL=1 ST=3 TYP=3 |
| | | 610 PALE | 49 GB | 2155.0E | 2156.0 | 1.00 | 660.0 | | | QL=1 ST=2 TYP=7 |
| | | 610 SGMR | 49 GB | 2155.0E | 2156.0 | 1.00 | 800.0 | | | QL=1 ST=3 TYP=6 |
| | | 610 LEAR | 8 S | 2347.0E | 2347.0 | 1.00 | 240.0 | | | QL=1 ST=2 TYP=3 |
| | | 610 PALE | 8 S | 2347.0E | 2347.0 | 1.00 | 270.0 | | | QL=1 ST=2 TYP=3 |
| | | 500 HIRA | 8 S | 2347.6 | 2347.7 | 0.2 | 650.0 | | | 0 |
| 28 | | 200 GORK | 43 NS | 0254.0 | | 546.0 | | 5.0 | | |
| | | 234 POTS | 44 NS | 0520.0E | 1334.0 | 563.00 | 65.0 | | | |
| | | 245 LEAR | 49 GB | 0220.0E | 0221.0 | 1.00 | 710.0 | | | QL=1 ST=2 TYP=6 |
| | | 245 PALE | 49 GB | 0220.0E | 0221.0 | 1.00 | 1200.0 | | | QL=1 ST=2 TYP=6 |
| | | 200 HIRA | 46 C | 0220.5 | 0220.7 | 1.5 | 138.0 | | | 0 |
| | | 500 HIRA | 42 SER | 0220.8 | 0221.6 | 5.5 | 17.0 | | | WL |
| | | 410 LEAR | 8 S | 0221.0E | 0221.0 | U | 170.0 | | | QL=1 ST=2 TYP=3 |
| | | 410 PALE | 8 S | 0221.0E | 0221.0 | 1.00 | 410.0 | | | QL=1 ST=2 TYP=3 |
| | | 100 HIRA | 42 SER | 0310.6 | 0344.2 | 40.3 | 940.0 | | | |
| | | 650 GORK | 23 GRF | 0420.0 | 0432.5 | 59.2 | 5.0 | | | |
| | | 950 GORK | 2 S/F | 0436.4 | 0436.9 | 1.4 | 8.0 | | | |
| | | 650 GORK | 46 C | 0438.1 | 0442.1 | 22.1 | 11.0 | | | |
| | | 650 GORK | 46 C | 0438.1 | 0450.5 | | 62.0 | | | |
| | | 650 GORK | 46 C | 0438.1 | 0454.7 | | 33.0 | | | |
| | | 950 GORK | 2 S/F | 0445.2 | 0445.5 | 0.6 | 3.0 | | | |
| | | 500 HIRA | 41 F | 0519.5 | 0520.0 | 5.0 | 80.0 | | | WR |
| | | 410 LEAR | 8 S | 0520.0E | 0520.0 | U | 84.0 | | | QL=1 ST=2 TYP=3 |
| | | 245 LEAR | 8 S | 0520.0E | 0520.0 | U | 27.0 | | | QL=1 ST=2 TYP=3 |
| | | 410 SVTO | 8 S | 0520.0E | 0520.0 | U | 79.0 | | | QL=1 ST=2 TYP=3 |
| | | 260 ONDR | 41 F | 0530.0E | 0920.0 | 620.00 | 225.0 | | | |
| | | 245 LEAR | 8 S | 0640.0E | 0641.0 | 1.00 | 40.0 | | | QL=1 ST=2 TYP=3 |
| | | 410 LEAR | 8 S | 0640.0E | 0641.0 | 1.00 | 200.0 | | | QL=1 ST=2 TYP=3 |
| | | 410 SVTO | 8 S | 0640.0E | 0641.0 | 1.00 | 110.0 | | | QL=1 ST=2 TYP=3 |
| | | 650 GORK | 4 S/F | 0640.0 | 0641.2 | 2.8 | 95.0 | | | |
| | | 536 ONDR | 6 S | 0640.2 | 0641.2 | 1.5 | 152.0 | | | |
| | | 500 HIRA | 46 C | 0640.3 | 0641.0 | 1.2 | 850.0 | | | 0 |
| | | 950 GORK | 1 S | 0640.9 | 0641.3 | 1.5 | 6.0 | | | |
| | | 2695 LEAR | 8 S | 0641.0E | 0641.0 | U | 11.0 | | | QL=1 ST=2 TYP=3 |
| | | 1415 LEAR | 8 S | 0641.0E | 0641.0 | 1.00 | 15.0 | | | QL=1 ST=2 TYP=3 |
| | | 610 LEAR | 8 S | 0641.0E | 0641.0 | U | 110.0 | | | QL=1 ST=2 TYP=3 |
| | | 9100 GORK | 1 S | 0641.0 | 0641.2 | 0.9 | 5.0 | | | |
| | | 3100 CRIM | 1 S | 0641.0 | 0641.3 | 1.0 | 8.5 | 3.0 | | |
| | | 2950 GORK | 3 S | 0641.0 | 0641.3 | 0.7 | 9.0 | | | |
| | | 600 HUMN | 3 S | 0641.0 | 0641.3 | 1.0 | 65.0 | 20.0 | | |
| | | 5900 KISV | 2 S/F | 0652.6 | 0654.0 | 6.8 | 16.0 | | | |
| | | 9300 KISV | 2 S/F | 0653.1 | 0653.8 | 3.2 | 19.0 | | | |
| | | 9100 GORK | 2 S/F | 0653.5 | 0654.0 | 3.0 | 9.0 | | | |
| | | 536 ONDR | 42 SER | 0723.9 | 0729.2 | 7.5 | 228.0 | | | |
| | | 100 GORK | 41 F | 0724.5 | 0830.0 | | 392.0 | | | |
| | | 100 GORK | 41 F | 0724.5 | 0754.0 | | 34.0 | | | |
| | | 100 GORK | 41 F | 0724.5 | 0745.5 | | 34.0 | | | |
| | | 100 GORK | 41 F | 0724.5 | 0808.5 | | 68.0 | | | |
| | | 100 GORK | 41 F | 0724.5 | 0730.8 | 125.5 | 34.0 | | | |
| | | 610 LEAR | 8 S | 0728.0E | 0729.0 | 2.00 | 310.0 | | | QL=1 ST=2 TYP=3 |

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

109
Jun 89

JUNE 1989

| Day | Freq | Sta | Type | Start (UT) | Time of Maximum (UT) | Duration (Min) | Flux Density | | Int | Remarks | |
|-------|-------|--------|---------|------------|----------------------|----------------|--|----------------------------|-----|-----------------|-----------------|
| | | | | | | | Peak (10 ⁻²² W/m ² Hz) | Mean (W/m ² Hz) | | | |
| 28 | 245 | LEAR | 8 S | 0728.0E | 0729.0 | 1.00 | 52.0 | | | QL=1 ST=2 TYP=3 | |
| | 410 | LEAR | 49 GB | 0729.0E | 0729.0 | U | 510.0 | | | QL=1 ST=2 TYP=6 | |
| | 410 | SVTO | 8 S | 0729.0E | 0729.0 | U | 380.0 | | | QL=1 ST=2 TYP=3 | |
| | 610 | SVTO | 8 S | 0729.0E | 0729.0 | U | 200.0 | | | QL=1 ST=2 TYP=3 | |
| | 808 | ONDR | 41 F | 0729.0 | 0730.6 | 2.0 | 10.0 | | | | |
| | 430 | KRAK | 8 S | 0729.3 | 0729.6 | 0.4 | 360.00 | | | | |
| | 810 | KRAK | 8 S | 0729.4 | 0729.4 | 0.1 | 53.0 | | | | |
| | 600 | HUMN | 8 S | 0730.0 | 0730.2 | 0.4 | 70.0 | 30.0 | | | |
| | 810 | KRAK | 8 S | 0730.7 | 0730.7 | 0.3 | 29.0 | | | | |
| | 430 | KRAK | 8 S | 0730.8 | 0730.8 | 0.2 | 11.0 | | | | |
| | 5900 | KISV | 4 S/F | 0744.0 | 0745.3 | 5.8 | 36.0 | | | | |
| | 9100 | GORK | 2 S/F | 0744.7 | 0748.3 | 6.3 | 22.0 | | | | |
| | 9300 | KISV | 2 S/F | 0744.7 | 0745.5 | 5.1 | 29.0 | | | | |
| | 15000 | KISV | 2 S/F | 0745.2 | 0745.5 | 8.6 | 12.0 | | | | |
| | 204 | IZMI | 41 F | 0753.0 | 0753.4 | 1.0 | 70.0 | | | | |
| | 430 | KRAK | 8 S | 0821.5 | 0821.9 | 0.5 | 7.0 | | | | |
| | 536 | ONDR | 42 SER | 0848.2 | 0918.3 | 104.0 | 202.0 | | | | |
| | 430 | KRAK | 8 S | 0849.6 | 0849.9 | 0.3 | 104.0 | | | | |
| | 810 | KRAK | 8 S | 0849.9 | 0849.9 | 0.1 | 9.0 | | | | |
| | 430 | KRAK | 8 S | 0850.5 | 0850.6 | 0.4 | 55.0 | | | | |
| | 245 | LEAR | 4 S/F | 0918.0E | 0919.0 | 3.00 | 210.0 | | | | QL=1 ST=2 TYP=3 |
| | 245 | SVTO | 8 S | 0918.0E | 0919.0 | 2.00 | 250.0 | | | | QL=1 ST=2 TYP=3 |
| | 3000 | POTS | 3 S | 0918.0 | 0919.6 | 3.0 | 24.0 | | | | |
| | 200 | HIRA | 46 C | 0918.5 | 0919.5 | 2.2 | 265.0 | | | | 0 |
| | 100 | HIRA | 46 C | 0918.5 | 0919.8 | 2.6 | 850.0 | | | | |
| | 3100 | CRIM | 1 S | 0918.6 | 0919.5 | 2.0 | 19.5 | 6.0 | | | |
| | 200 | GORK | 2 S/F | 0918.7 | 0919.0U | 2.5 | 18.0 | | | | |
| | 650 | GORK | 4 S/F | 0918.8 | 0919.4 | 2.2 | 41.0 | | | | |
| | 204 | IZMI | 41 F | 0919.0 | 0920.0 | 1.8 | 250.0 | | | | |
| | 410 | LEAR | 8 S | 0919.0E | 0919.0 | 1.00 | 77.0 | | | | QL=1 ST=2 TYP=3 |
| | 610 | LEAR | 8 S | 0919.0E | 0919.0 | U | 77.0 | | | | QL=1 ST=2 TYP=3 |
| | 410 | SVTO | 8 S | 0919.0E | 0919.0 | 1.00 | 81.0 | | | | QL=1 ST=2 TYP=3 |
| | 2950 | GORK | 3 S | 0919.0 | 0919.6 | 1.7 | 19.0 | | | | |
| | 600 | HUMN | 3 S | 0919.0 | 0919.7 | 2.0 | 68.0 | 6.0 | | | |
| | 5900 | KISV | 2 S/F | 0919.0 | 0919.7 | 2.0 | 9.0 | | | | |
| | 950 | GORK | 46 C | 0919.0 | 0919.8 | 3.0 | 9.0 | | | | |
| | 950 | GORK | 46 C | 0919.0 | 0921.8 | | 9.0 | | | | |
| | 3013 | IZMI | 1 S | 0919.3 | 0919.7 | 1.5 | 15.0 | 7.0 | | | |
| | 808 | ONDR | 41 F | 0919.4 | 0922.0 | 3.0 | 5.0 | | | | |
| | 9300 | KISV | 2 S/F | 0919.6 | 0919.8 | 3.4 | 5.0 | | | | |
| | 9100 | GORK | 2 S/F | 1051.0 | 1051.5 | 3.9 | 23.0 | | | | |
| | 5900 | KISV | 2 S/F | 1051.4 | 1051.6 | 1.0 | 15.0 | | | | |
| | 9300 | KISV | 2 S/F | 1051.5 | 1052.2 | 0.8 | 25.0 | | | | |
| | 5900 | KISV | 2 S/F | 1108.6 | 1111.5 | 10.6 | 28.0 | | | | |
| | 9300 | KISV | 45 C | 1109.7 | 1111.3 | 3.4 | 18.0 | | | | |
| 9300 | KISV | 45 C | 1109.7 | 1111.7 | | 15.0 | | | | | |
| 9100 | GORK | 2 S/F | 1110.8 | 1111.2 | 2.0 | 15.0 | | | | | |
| 536 | ONDR | 42 SER | 1142.0 | 1142.4 | 180.0 | 78.0 | | | | | |
| 33 | UPIC | 4 S/F | 1219.7 | 1220.0 | 2.1 | | | | | | |
| 5900 | KISV | 45 C | 1300.5 | 1302.3 | 14.7 | 78.0 | | | | | |
| 9500 | POTS | 3 S | 1301.0 | 1302.5 | 9.0 | 68.0 | | | | | |
| 9300 | KISV | 4 S/F | 1301.2 | 1302.4 | 8.0 | 78.0 | | | | | |
| 15000 | KISV | 2 S/F | 1301.9 | 1302.4 | 6.2 | 53.0 | | | | | |
| 8800 | SGMR | 8 S | 1302.0E | 1302.0 | U | 72.0 | | | | QL=1 ST=2 TYP=3 | |
| 15400 | SVTO | 8 S | 1302.0E | 1302.0 | U | 43.0 | | | | QL=1 ST=2 TYP=3 | |
| 8800 | SVTO | 8 S | 1302.0E | 1302.0 | U | 64.0 | | | | QL=1 ST=2 TYP=3 | |
| 245 | PALE | 8 S | 1701.0E | 1701.0 | 1.00 | 110.0 | | | | QL=1 ST=2 TYP=3 | |
| 410 | PALE | 8 S | 1701.0E | 1701.0 | 1.00 | 55.0 | | | | QL=1 ST=2 TYP=3 | |
| 245 | SGMR | 8 S | 1701.0E | 1701.0 | 2.00 | 95.0 | | | | QL=1 ST=2 TYP=3 | |
| 410 | SGMR | 8 S | 1701.0E | 1701.0 | 2.00 | 54.0 | | | | QL=1 ST=2 TYP=3 | |
| 410 | SVTO | 8 S | 1701.0E | 1702.0 | 1.00 | 130.0 | | | | QL=1 ST=3 TYP=3 | |
| 245 | SVTO | 8 S | 1701.0E | 1701.0 | 1.00 | 88.0 | | | | QL=1 ST=3 TYP=3 | |
| 410 | PALE | 4 S/F | 1737.0E | 1738.0 | 3.00 | 85.0 | | | | QL=1 ST=2 TYP=5 | |
| 245 | PALE | 8 S | 1738.0E | 1738.0 | U | 160.0 | | | | QL=1 ST=2 TYP=3 | |
| 245 | SGMR | 8 S | 1738.0E | 1738.0 | U | 160.0 | | | | QL=1 ST=2 TYP=3 | |
| 410 | SGMR | 8 S | 1738.0E | 1738.0 | U | 71.0 | | | | QL=1 ST=2 TYP=3 | |
| 245 | SVTO | 8 S | 1738.0E | 1738.0 | U | 120.0 | | | | QL=1 ST=2 TYP=3 | |
| 410 | SVTO | 8 S | 1738.0E | 1738.0 | U | 71.0 | | | | QL=1 ST=2 TYP=3 | |
| 2800 | OTTA | 20 GRF | 1745.0 | 1746.5 | 15.0 | 10.1 | 5.0 | | | | |

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

JUNE 1989

| Day | Freq Sta | Type | Start (UT) | Time of Maximum (UT) | Duration (Min) | Flux Density | | Int | Remarks |
|-----------|------------|---------|------------|----------------------|----------------|------------------------|-------|-----------------|-----------------|
| | | | | | | Peak (10 -22 W/m 2 Hz) | Mean | | |
| 28 | 2800 OTTA | 3 S | 1805.5 | 1806.5 | 4.5 | 7.6 | 2.0 | | |
| | 2800 OTTA | 4 S/F | 1810.0 | 1815.7 | 15.5 | 432.0 | 86.0 | | |
| | 4995 SGMR | 4 S/F | 1811.0E | 1817.0 | 17.00 | 440.0 | | | QL=1 ST=2 TYP=3 |
| | 4995 PALE | 49 GB | 1812.0E | 1822.0 | 14.00 | 630.0 | | | QL=1 ST=2 TYP=7 |
| | 8800 SGMR | 20 GRF | 1812.0E | 1817.0 | 16.00 | 290.0 | | | QL=1 ST=2 TYP=2 |
| | 2695 SGMR | 4 S/F | 1812.0E | 1815.0 | 16.00 | 370.0 | | | QL=1 ST=2 TYP=3 |
| | 2695 PALE | 4 S/F | 1813.0E | 1815.0 | 8.00 | 430.0 | | | QL=1 ST=2 TYP=3 |
| | 8800 PALE | 49 GB | 1813.0E | 1822.0 | 13.00 | 340.0 | | | QL=1 ST=2 TYP=7 |
| | 1415 SGMR | 49 GB | 1813.0E | 1817.0 | 13.00 | 4200.0 | | | QL=1 ST=2 TYP=6 |
| | 15400 SGMR | 4 S/F | 1813.0E | 1817.0 | 15.00 | 100.0 | | | QL=1 ST=2 TYP=3 |
| | 1415 PALE | 49 GB | 1814.0E | 1817.0 | 6.00 | 3900.0 | | | QL=1 ST=2 TYP=6 |
| | 15400 PALE | 4 S/F | 1814.0E | 1816.0 | 4.00 | 120.0 | | | QL=1 ST=2 TYP=3 |
| | 2800 OTTA | 29 PBI | 1825.5 | 1825.5 | 85.0 | 25.3 | 12.0 | | |
| | 245 PALE | 8 S | 1908.0E | 1909.0 | 1.00 | 140.0 | | | QL=1 ST=2 TYP=3 |
| | 410 PALE | 8 S | 1908.0E | 1909.0 | 1.00 | 200.0 | | | QL=1 ST=2 TYP=3 |
| | 245 SGMR | 8 S | 1909.0E | 1909.0 | | U | 110.0 | | QL=1 ST=2 TYP=3 |
| | 410 SGMR | 8 S | 1909.0E | 1909.0 | | U | 270.0 | | QL=1 ST=2 TYP=3 |
| | 245 SGMR | 8 S | 2117.0E | 2117.0 | 1.00 | 120.0 | | | QL=1 ST=2 TYP=3 |
| 410 SGMR | 8 S | 2117.0E | 2117.0 | 1.00 | 70.0 | | | QL=1 ST=2 TYP=3 | |
| 29 | 200 HIRA | 44 NS | 1925.0E | 2017.0 | 96.00 | 7.0 | 3.0 | | WR |
| | 500 HIRA | 42 SER | 0207.0 | 0207.0 | 9.5 | 240.0 | | | O |
| | 410 LEAR | 8 S | 0211.0E | 0212.0 | 2.00 | 69.0 | | | QL=1 ST=2 TYP=3 |
| | 245 LEAR | 8 S | 0212.0E | 0213.0 | 1.00 | 26.0 | | | QL=1 ST=2 TYP=3 |
| | 500 HIRA | 46 C | 0249.0 | 0305.3 | 80.0 | 34.0 | 11.0 | | WL |
| | 500 HIRA | 46 C | 0249.0 | 0311.7 | | 29.0 | | | WL |
| | 200 HIRA | 46 C | 0251.5 | 0313.2 | | 63.0 | | | O |
| | 200 HIRA | 46 C | 0251.5 | 0348.3 | | 98.0 | 17.0 | | MR |
| | 610 LEAR | 4 S/F | 0254.0E | 0306.0 | 34.00 | 27.0 | | | QL=1 ST=2 TYP=3 |
| | 410 LEAR | 4 S/F | 0257.0E | 0310.0 | 43.00 | 24.0 | | | QL=1 ST=2 TYP=3 |
| | 1415 LEAR | 4 S/F | 0257.0E | 0258.0 | 1263.00 | 16.0 | | | QL=1 ST=1 TYP=3 |
| | 245 LEAR | 4 S/F | 0258.0E | 0312.0 | 59.00 | 84.0 | | | QL=1 ST=2 TYP=5 |
| | 245 PALE | 20 GRF | 0302.0E | 0312.0 | 15.00 | 120.0 | | | QL=1 ST=2 TYP=2 |
| | 650 GORK | 22 GRF | 0303.0E | 0316.4 | 57.00 | 18.0 | | | |
| | 410 PALE | 8 S | 0304.0E | 0304.0 | | U | 58.0 | | QL=1 ST=2 TYP=3 |
| | 950 GORK | 4 S/F | 0308.6 | 0310.0 | 1.6 | 33.0 | | | |
| | 2950 GORK | 2 S/F | 0308.7 | 0339.7 | 31.9 | 11.0 | | | |
| | 950 GORK | 1 S | 0323.7 | 0325.5 | 4.3 | 2.0 | | | |
| | 245 PALE | 8 S | 0324.0E | 0326.0 | 2.00 | 72.0 | | | QL=1 ST=2 TYP=3 |
| | 200 HIRA | 27 RF | 0417.8 | 0435.0 | 52.8 | 37.0 | 11.0 | | O |
| | 650 GORK | 41 F | 0422.2 | 0437.3 | | 13.0 | | | |
| | 650 GORK | 41 F | 0422.2 | 0428.5 | 44.8 | 6.0 | | | |
| | 950 GORK | 22 GRF | 0423.3 | 0428.0 | 35.7 | 13.0 | | | |
| | 5900 KISV | 22 GRF | 0449.6 | 0453.4 | 11.2 | 7.0 | | | |
| | 9300 KISV | 1 S | 0502.9 | 0503.2 | 2.3 | 9.0 | | | |
| | 650 GORK | 2 S/F | 0516.0 | 0516.8 | 1.2 | 5.0 | | | |
| | 260 ONDR | 41 F | 0530.0E | 0751.2 | 620.00 | 304.0 | | | |
| | 9300 KISV | 42 SER | 0548.7 | 0552.1 | | 3.0 | | | |
| | 9300 KISV | 42 SER | 0548.7 | 0549.1 | 4.5 | 3.0 | | | |
| | 5900 KISV | 45 C | 0548.7 | 0549.3 | 1.3 | 5.0 | | | |
| | 5900 KISV | 1 S | 0604.6 | 0606.5 | 5.0 | 4.0 | | | |
| | 9100 GORK | 1 S | 0605.4 | 0606.4 | 3.0 | 5.0 | | | |
| | 9300 KISV | 45 C | 0605.5 | 0607.1 | 2.9 | 7.0 | | | |
| | 536 ONDR | 42 SER | 0748.2 | 0748.9 | 47.0 | 24.0 | | | |
| 33 UPIC | 4 S/F | 0816.0 | 0816.5 | 1.5 | | | | | |
| 536 ONDR | 41 F | 0957.0 | 1010.0 | 20.0 | 9.0 | | | | |
| 808 ONDR | 3 S | 1007.3 | 1007.6 | 1.0 | 11.0 | | | | |
| 536 ONDR | 1 S | 1200.7 | 1200.8 | 0.8 | 11.0 | | | | |
| 5900 KISV | 2 S/F | 1324.5 | 1325.3 | 2.5 | 12.0 | | | | |
| 2800 OTTA | 47 GB | 2042.0 | 2114.5 | 72.0 | 973.0 | 195.0 | | | |
| 2695 PALE | 49 GB | 2103.0E | 2114.0 | 46.00 | 770.0 | | | QL=1 ST=2 TYP=7 | |
| 4995 SGMR | 49 GB | 2103.0E | 2114.0 | 41.00 | 1200.0 | | | QL=1 ST=2 TYP=7 | |
| 1415 SGMR | 20 GRF | 2103.0E | 2122.0 | 40.00 | 350.0 | | | QL=1 ST=2 TYP=2 | |
| 2695 SGMR | 49 GB | 2103.0E | 2114.0 | 44.00 | 800.0 | | | QL=1 ST=2 TYP=7 | |
| 200 HIRA | 46 C | 2103.3 | 2152.1 | | 20.0 | | | O | |
| 200 HIRA | 46 C | 2103.3 | 2127.5 | | 25.0 | | | O | |
| 200 HIRA | 46 C | 2103.3 | 2108.6 | 83.0 | 240.0 | 18.0 | | O | |
| 610 SGMR | 4 S/F | 2104.0E | 2109.0 | 25.00 | 92.0 | | | QL=1 ST=2 TYP=5 | |
| 1415 PALE | 4 S/F | 2104.0E | 2123.0 | 34.00 | 310.0 | | | QL=1 ST=2 TYP=5 | |

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

111
Jun 89

JUNE 1989

| Day | Freq Sta | Type | Start (UT) | Time of Maximum (UT) | Duration (Min) | Flux Density | | Int | Remarks |
|-----------|------------|---------|------------|----------------------|----------------|--|------|-----------------|-----------------|
| | | | | | | Peak (10 ⁻²² W/m ² Hz) | Mean | | |
| 29 | 8800 SGMR | 49 GB | 2104.0E | 2114.0 | 40.0D | 890.0 | | | QL=1 ST=2 TYP=6 |
| | 100 HIRA | 46 C | 2105.9 | | 33.7 | 1000.0D | | | |
| | 410 SGMR | 4 S/F | 2107.0E | 2111.0 | 17.0D | 81.0 | | | QL=1 ST=2 TYP=5 |
| | 245 SGMR | 4 S/F | 2107.0E | 2113.0 | 14.0D | 360.0 | | | QL=1 ST=2 TYP=5 |
| | 15400 SGMR | 4 S/F | 2107.0E | 2114.0 | 32.0D | 390.0 | | | QL=1 ST=2 TYP=3 |
| | 410 PALE | 4 S/F | 2108.0E | 2112.0 | 5.0D | 89.0 | | | QL=1 ST=2 TYP=5 |
| | 245 PALE | 4 S/F | 2108.0E | 2113.0 | 12.0D | 380.0 | | | QL=1 ST=2 TYP=5 |
| | 8800 PALE | 49 GB | 2108.0E | 2114.0 | 31.0D | 690.0 | | | QL=1 ST=2 TYP=6 |
| | 610 PALE | 4 S/F | 2108.0E | 2109.0 | 172.0D | 97.0 | | | QL=1 ST=1 TYP=3 |
| | 15400 PALE | 20 GRF | 2109.0E | 2114.0 | 24.0D | 400.0 | | | QL=1 ST=2 TYP=2 |
| | 4995 PALE | 49 GB | 2109.0E | 2114.0 | 31.0D | 1100.0 | | | QL=1 ST=2 TYP=6 |
| 2800 OTTA | 29 PBI | 2154.0 | 2154.0 | 150.0 | 21.3 | 10.0 | | | |
| 2800 OTTA | 4 S/F | 2200.0 | 2206.5 | 17.5 | 40.6 | 16.0 | | | |
| 30 | 260 ONDR | 44 NS | 0530.0E | 1501.0 | 620.0D | 231.0 | | | |
| | 204 IZMI | 43 NS | 0600.0 | | 65.0 | 30.0 | | | |
| | 245 SGMR | 44 NS | 1016.0E | 1016.0 | 540.0D | 80.0 | | | QL=1 ST=2 TYP=1 |
| | 200 HIRA | 41 F | 0136.3 | 0137.0 | 50.8 | 84.0 | | | WR |
| | 245 LEAR | 8 S | 0141.0E | 0141.0 | 1.0D | 55.0 | | | QL=1 ST=2 TYP=3 |
| | 5900 KISV | 4 S/F | 0402.8 | 0403.5 | 5.6 | 31.0 | | | |
| | 9100 GORK | 1 S | 0403.0 | 0403.5 | 3.4 | 22.0 | | | |
| | 9300 KISV | 2 S/F | 0403.1 | 0403.5 | 3.6 | 31.0 | | | |
| | 3100 CRIM | 1 S | 0403.6 | 0403.9 | 1.0 | 7.0 | 3.0 | | |
| | 5900 KISV | 45 C | 0601.7 | 0609.4 | | 100.0 | | | |
| | 5900 KISV | 45 C | 0601.7 | 0610.6 | 21.6 | 118.0 | | | |
| | 2695 LEAR | 8 S | 0602.0E | 0602.0 | 1.0D | 13.0 | | | QL=1 ST=2 TYP=3 |
| | 245 LEAR | 8 S | 0602.0E | 0603.0 | 1.0D | 73.0 | | | QL=1 ST=2 TYP=3 |
| | 3013 IZMI | 7 C | 0602.0 | 0610.5 | 21.0 | 41.0 | 20.0 | | |
| | 3100 CRIM | 3 S | 0602.2 | 0610.5 | 18.0 | 63.0 | 21.0 | | |
| | 245 SVTO | 8 S | 0603.0E | 0603.0 | 1.0D | 70.0 | | | QL=1 ST=2 TYP=3 |
| | 950 GORK | 21 GRF | 0603.0E | 0631.3 | 117.0U | 5.0 | | | |
| | 2950 GORK | 21 GRF | 0603.0U | 0801.5 | 231.0D | 32.0 | | | |
| | 1415 LEAR | 4 S/F | 0604.0E | 0611.0 | 14.0D | 37.0 | | | QL=1 ST=2 TYP=3 |
| | 4995 LEAR | 4 S/F | 0604.0E | 0610.0 | 15.0D | 120.0 | | | QL=1 ST=2 TYP=3 |
| | 2695 LEAR | 4 S/F | 0604.0E | 0610.0 | 14.0D | 70.0 | | | QL=1 ST=2 TYP=3 |
| | 9100 GORK | 21 GRF | 0604.2 | 0756.3 | 226.8 | 100.0 | | | |
| | 9300 KISV | 45 C | 0604.4 | 0909.4 | | 78.0 | | | |
| | 9300 KISV | 45 C | 0604.4 | 0610.6 | 16.2 | 94.0 | | | |
| | 2950 GORK | 22 GRF | 0604.5 | 0610.5 | 14.8 | 68.0 | | | |
| | 8800 LEAR | 4 S/F | 0607.0E | 0610.0 | 9.0D | 81.0 | | | QL=1 ST=2 TYP=3 |
| | 9100 GORK | 4 S/F | 0607.3 | 0610.5 | 8.8 | 87.0 | | | |
| | 950 GORK | 22 GRF | 0607.4 | 0612.4 | 12.4 | 13.0 | | | |
| | 15000 KISV | 2 S/F | 0607.5 | 0610.6 | 6.3 | 38.0 | | | |
| | 650 GORK | 21 GRF | 0607.9 | 0631.3 | 142.1 | 4.0 | | | |
| | 8800 SVTO | 4 S/F | 0608.0E | 0610.0 | 3.0D | 59.0 | | | QL=1 ST=2 TYP=3 |
| | 2695 SVTO | 4 S/F | 0608.0E | 0610.0 | 4.0D | 59.0 | | | QL=1 ST=2 TYP=3 |
| | 15400 LEAR | 4 S/F | 0608.0E | 0610.0 | 13.0D | 64.0 | | | QL=1 ST=2 TYP=3 |
| | 15400 SVTO | 4 S/F | 0609.0E | 0610.0 | 3.0D | 57.0 | | | QL=1 ST=2 TYP=3 |
| | 1415 SVTO | 8 S | 0609.0E | 0611.0 | 2.0D | 33.0 | | | QL=1 ST=2 TYP=3 |
| | 536 ONDR | 41 F | 0625.0 | 0723.8 | 90.0 | 23.0 | | | |
| | 500 HIRA | 41 F | 0626.5 | 0642.3 | 35.0 | 16.0 | | | 0 |
| | 3100 CRIM | 28 PRE | 0630.0 | 0711.2 | 41.7 | 16.0 | 9.0 | | |
| | 650 GORK | 46 C | 0638.4 | 0644.2 | 78.6 | 21.0 | | | |
| | 650 GORK | 46 C | 0638.4 | 0710.7 | | 43.0 | | | |
| | 650 GORK | 46 C | 0638.4 | 0715.8 | | 26.0 | | | |
| | 650 GORK | 46 C | 0638.4 | 0741.8 | | 38.0 | | | |
| | 600 HUMN | 27 RF | 0639.0 | 0711.0 | 83.0 | 17.0 | 4.0 | | |
| 950 GORK | 46 C | 0639.0 | 0650.1 | | 21.0 | | | | |
| 950 GORK | 46 C | 0639.0 | 0644.1 | 16.4 | 7.0 | | | | |
| 950 GORK | 46 C | 0639.0 | 0651.3 | | 15.0 | | | | |
| 950 GORK | 46 C | 0639.0 | 0654.9 | | 13.0 | | | | |
| 245 LEAR | 8 S | 0646.0E | 0646.0 | U | 120.0 | | | QL=1 ST=2 TYP=3 | |
| 808 ONDR | 47 GB | 0648.0 | 0742.0 | 74.0 | 59.0 | | | | |
| 200 HIRA | 42 SER | 0649.5 | 0730.4 | 70.6 | 23.0 | | | 0 | |
| 204 IZMI | 42 SER | 0703.0 | 0705.2 | 3.0 | 350.0 | | | | |
| 500 HIRA | 46 C | 0705.0 | 0742.0 | | 11.0 | | | 0 | |
| 810 KRAK | 27 RF | 0705.0 | 0741.0 | 52.5 | 44.0 | 15.0 | | | |
| 500 HIRA | 46 C | 0705.0 | 0720.5 | 46.5 | 17.0 | | | 0 | |
| 950 GORK | 46 C | 0709.0 | 0725.4 | | 52.0 | | | | |

112
Jun 89

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

JUNE 1989

| 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 |
|-------|-------|--------|---------|------------|----------------------|----------------|---|---|-----------------|-----------------|
| 30 | 950 | GORK | 46 C | 0709.0 | 0741.8 | | 15.0 | | | |
| | 950 | GORK | 46 C | 0709.0 | 0710.8 | 48.0 | 39.0 | | | |
| | 2695 | LEAR | 49 GB | 0710.0E | 0741.0 | 67.00 | 730.0 | | | QL=1 ST=2 TYP=7 |
| | 3000 | POTS | 46 C | 0710.0 | 0741.0 | 140.00 | 1640.0 | | | |
| | 9500 | POTS | 46 C | 0710.0 | 0742.0 | 190.0 | 202.0 | | | |
| | 1470 | POTS | 46 C | 0710.0 | 0742.0 | 225.0 | 550.0 | | | |
| | 3013 | IZMI | 45 C | 0710.5 | 0741.5 | 80.0 | 336.0 | 150.0 | | |
| | 4995 | LEAR | 49 GB | 0711.0E | 0741.0 | 68.00 | 590.0 | | | QL=1 ST=2 TYP=7 |
| | 1415 | LEAR | 4 S/F | 0711.0E | 0742.0 | 60.00 | 370.0 | | | QL=1 ST=2 TYP=5 |
| | 2950 | GORK | 46 C | 0711.6 | 0741.7 | | 651.0 | | | |
| | 2950 | GORK | 46 C | 0711.6 | 0724.8 | 49.9 | 372.0 | | | |
| | 5900 | KISV | 29 PBI | 0711.7 | 0753.0 | 52.5 | 141.0 | | | |
| | 5900 | KISV | 47 GB | 0711.7 | 0742.1 | 41.3 | 504.0 | | | |
| | 5900 | KISV | 47 GB | 0711.7 | 0724.2 | | 320.0 | | | |
| | 3100 | CRIM | 47 GB | 0711.7 | 0741.6 | 60.0 | 624.0 | 208.0 | | |
| | 3100 | CRIM | 47 GB | 0711.7 | 0724.8 | | 366.0 | | | |
| | 9300 | KISV | 45 C | 0711.8 | 0724.1 | | 169.0 | | | |
| | 9300 | KISV | 45 C | 0711.8 | 0742.1 | 41.5 | 286.0 | | | |
| | 9300 | KISV | 29 PBI | 0711.8 | 0756.2 | 47.0 | 103.0 | | | |
| | 9100 | GORK | 46 C | 0712.0 | 0724.0 | 44.3 | 148.0 | | | |
| | 1415 | SVTO | 4 S/F | 0712.0E | 0742.0 | 52.00 | 350.0 | | | QL=1 ST=2 TYP=5 |
| | 8800 | LEAR | 4 S/F | 0712.0E | 0741.0 | 63.00 | 240.0 | | | QL=1 ST=2 TYP=5 |
| | 4995 | SVTO | 4 S/F | 0712.0E | 0741.0 | 60.00 | 450.0 | | | QL=1 ST=2 TYP=5 |
| | 2695 | SVTO | 49 GB | 0712.0E | 0741.0 | 62.00 | 620.0 | | | QL=1 ST=2 TYP=7 |
| | 9100 | GORK | 46 C | 0712.0 | 0741.5 | | 392.0 | | | |
| | 430 | KRAK | 27 RF | 0713.0 | 0720.1 | 38.5 | 26.0 | 6.0 | | |
| | 204 | IZMI | 4 S/F | 0713.0 | 0713.2 | 1.0 | 50.0 | 40.0 | | |
| | 15000 | KISV | 45 C | 0713.3 | 0742.2 | 38.0 | 111.0 | | | |
| | 15000 | KISV | 29 PBI | 0713.3 | 0751.2 | 43.4 | 63.0 | | | |
| | 15000 | KISV | 45 C | 0713.3 | 0724.3 | | 61.0 | | | |
| | 8800 | SVTO | 4 S/F | 0715.0E | 0741.0 | 54.00 | 200.0 | | | QL=1 ST=2 TYP=5 |
| | 15400 | LEAR | 20 GRF | 0717.0E | 0724.0 | 14.00 | 60.0 | | | QL=1 ST=2 TYP=2 |
| | 100 | GORK | 41 F | 0718.0 | 0720.4 | 31.5 | 461.0 | | | |
| | 100 | GORK | 41 F | 0718.0 | 0748.5 | | 346.0 | | | |
| | 410 | LEAR | 4 S/F | 0719.0E | 0720.0 | 4.00 | 21.0 | | | QL=1 ST=2 TYP=3 |
| | 15400 | SVTO | 4 S/F | 0719.0E | 0743.0 | 56.00 | 120.0 | | | QL=1 ST=2 TYP=3 |
| | 245 | LEAR | 8 S | 0724.0E | 0724.0 | 1.00 | 43.0 | | | QL=1 ST=2 TYP=3 |
| | 204 | IZMI | 22 GRF | 0725.0 | 0731.0 | 25.0 | 40.0 | | | |
| | 234 | POTS | 8 S | 0750.4 | 0750.6 | 0.6 | 275.0 | 90.0 | | |
| | 204 | IZMI | 8 S | 0751.0 | 0751.2 | 0.2 | 250.0 | 200.0 | | |
| | 536 | ONDR | 42 SER | 0803.8 | 0808.2 | 22.0 | 190.0 | | | |
| | 600 | HUMN | 41 F | 0806.0 | 0807.0 | 3.0 | 22.0 | 4.0 | | |
| | 500 | HIRA | 41 F | 0806.0 | 0808.5 | 3.0 | 2400.0 | | | 0 |
| | 430 | KRAK | 42 SER | 0806.3 | 0808.4 | | 260.00 | | | |
| | 430 | KRAK | 42 SER | 0806.3 | 0807.5 | | 260.00 | | | |
| | 430 | KRAK | 42 SER | 0806.3 | 0806.7 | 2.5 | 260.00 | | | |
| | 3100 | CRIM | 29 PBI | 0811.7E | 0811.7 | 31.00 | 45.0 | 15.0 | | |
| | 430 | KRAK | 42 SER | 0823.0 | 0918.0 | | 80.0 | | | |
| | 430 | KRAK | 42 SER | 0823.0 | 0823.1 | 266.00 | 120.0 | | | |
| | 430 | KRAK | 42 SER | 0823.0 | 1209.5 | | 46.0 | | | |
| 5900 | KISV | 4 S/F | 0906.3 | 0907.3 | 6.4 | 30.0 | | | | |
| 9100 | GORK | 1 S | 0906.8 | 0907.2 | 1.3 | 15.0 | | | | |
| 9300 | KISV | 2 S/F | 0906.8 | 0907.4 | 2.4 | 17.0 | | | | |
| 15000 | KISV | 2 S/F | 0907.1 | 0907.3 | 0.7 | 6.0 | | | | |
| 810 | KRAK | 41 F | 0931.9 | 0935.5 | 4.2 | 30.0 | 8.0 | | | |
| 245 | SVTO | 8 S | 1011.0E | 1011.0 | U | 100.0 | | | QL=1 ST=2 TYP=3 | |
| 810 | KRAK | 8 S | 1016.2 | 1016.2 | 0.5 | 28.0 | | | | |
| 536 | ONDR | 42 SER | 1026.6 | 1144.0 | 85.0 | 85.0 | | | | |
| 600 | HUMN | 3 S | 1035.0 | 1035.2 | 0.5 | 33.0 | 10.0 | | | |
| 5900 | KISV | 2 S/F | 1046.2 | 1046.9 | 2.5 | 5.0 | | | | |
| 9300 | KISV | 2 S/F | 1046.6 | 1046.8 | 0.6 | 3.0 | | | | |
| 5900 | KISV | 23 GRF | 1115.8 | 1116.7 | 26.0 | 9.0 | | | | |
| 2950 | GORK | 20 GRF | 1116.2 | 1116.9 | 43.8 | 5.0 | | | | |
| 810 | KRAK | 42 SER | 1116.5 | 1116.8 | 1.5 | 310.00 | | | | |
| 536 | ONDR | 41 F | 1158.5 | 1208.3 | 35.0 | 38.0 | | | | |
| 9300 | KISV | 2 S/F | 1216.6 | 1217.0 | 1.5 | 26.0 | | | | |
| 9500 | POTS | 3 S | 1216.9 | 1217.0 | 3.1 | 24.0 | | | | |
| 810 | KRAK | 8 S | 1252.5 | 1252.5 | 0.1 | 68.0 | | | | |
| 810 | KRAK | 8 S | 1304.8 | 1305.0 | 0.2 | 57.0 | | | | |

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

113
Jun 89

JUNE 1989

| Day | Freq Sta | Type | Start (UT) | Time of Maximum (UT) | Duration (Min) | Flux Density | | Int | Remarks |
|------------|------------|---------|------------|----------------------|----------------|---|-------|-----------------|-----------------|
| | | | | | | Peak | Mean | | |
| | | | | | | (10 ⁻²² W/m ² Hz) | | | |
| 30 | 9500 POTS | 40 F | 1319.0 | 1336.2 | 26.0 | 32.0 | | | |
| | 536 ONDR | 42 SER | 1319.2 | 1454.6 | 110.0 | 245.0 | | | |
| | 1470 POTS | 40 F | 1329.0 | 1330.5 | 8.0 | 26.0 | | | |
| | 808 ONDR | 41 F | 1329.8 | 1330.6 | 7.5 | 91.0 | | | |
| | 2800 OTTA | 46 C | 1330.0 | 1330.5 | 3.4 | 21.6 | 5.0 | | |
| | 600 HUMN | 41 F | 1330.0 | 1330.5 | 7.0 | 16.0 | 3.0 | | |
| | 3000 POTS | 40 F | 1330.0 | 1330.5 | 10.0 | 22.0 | | | |
| | 4995 SGMR | 8 S | 1403.0E | 1404.0 | 1.00 | 56.0 | | | QL=1 ST=3 TYP=3 |
| | 8800 SGMR | 8 S | 1403.0E | 1404.0 | 1.00 | 130.0 | | | QL=1 ST=3 TYP=3 |
| | 15400 SGMR | 8 S | 1403.0E | 1404.0 | 2.00 | 230.0 | | | QL=1 ST=3 TYP=3 |
| | 410 SVTO | 49 GB | 1403.0E | 1404.0 | 5.00 | 5100.0 | | | QL=1 ST=2 TYP=6 |
| | 15400 SVTO | 8 S | 1403.0E | 1404.0 | 2.00 | 220.0 | | | QL=1 ST=2 TYP=3 |
| | 3000 POTS | 4 S/F | 1403.0 | 1404.4 | 3.0 | 45.0 | | | |
| | 1470 POTS | 4 S/F | 1403.0 | 1404.5 | 4.0 | 39.0 | | | |
| | 9500 POTS | 4 S/F | 1403.0 | 1404.6 | 4.0 | 97.0 | | | |
| | 808 ONDR | 46 C | 1403.7 | 1420.0 | 22.0 | 255.0 | | | |
| | 610 SGMR | 49 GB | 1404.0E | 1404.0 | U | 700.0 | | | QL=1 ST=3 TYP=6 |
| | 410 SGMR | 8 S | 1404.0E | 1404.0 | 2.00 | 800.0 | | | QL=1 ST=2 TYP=3 |
| | 2695 SGMR | 8 S | 1404.0E | 1404.0 | U | 50.0 | | | QL=1 ST=3 TYP=3 |
| | 2695 SVTO | 8 S | 1404.0E | 1404.0 | U | 50.0 | | | QL=1 ST=2 TYP=3 |
| | 1415 SVTO | 8 S | 1404.0E | 1404.0 | U | 45.0 | | | QL=1 ST=2 TYP=3 |
| | 8800 SVTO | 8 S | 1404.0E | 1404.0 | 1.00 | 81.0 | | | QL=1 ST=2 TYP=3 |
| | 600 HUMN | 8 S | 1404.7 | 1404.9 | 0.4 | 300.0 | 100.0 | | |
| | 3000 POTS | 40 F | 1412.0 | 1417.0 | 18.0 | 11.0 | | | |
| | 9500 POTS | 40 F | 1415.0 | 1416.8 | 15.0 | 29.0 | | | |
| | 600 HUMN | 4 S/F | 1418.0 | 1420.0 | 9.0 | 75.0 | 20.0 | | |
| | 610 SGMR | 4 S/F | 1418.0E | 1420.0 | 5.00 | 210.0 | | | QL=1 ST=2 TYP=3 |
| | 1470 POTS | 40 F | 1420.0 | 1421.4 | 7.0 | 6.0 | | | |
| | 410 SGMR | 8 S | 1421.0E | 1421.0 | U | 110.0 | | | QL=1 ST=2 TYP=3 |
| | 610 SGMR | 8 S | 1438.0E | 1438.0 | U | 52.0 | | | QL=1 ST=2 TYP=3 |
| | 600 HUMN | 4 S/F | 1439.0 | 1440.0 | 1.5 | 40.0 | 10.0 | | |
| | 2800 OTTA | 42 SER | 1449.5 | 1451.5 | 4.2 | 12.2 | 5.0 | | |
| | 610 SGMR | 8 S | 1454.0E | 1455.0 | 1.00 | 84.0 | | | QL=1 ST=2 TYP=3 |
| | 2695 SGMR | 8 S | 1454.0E | 1455.0 | 1.00 | 48.0 | | | QL=1 ST=2 TYP=3 |
| | 2800 OTTA | 42 SER | 1454.9 | 1455.2 | 1.8 | 42.7 | 9.0 | | |
| | 600 HUMN | 4 S/F | 1455.0 | 1455.3 | 2.0 | 60.0 | 15.0 | | |
| | 808 ONDR | 46 C | 1455.0 | 1500.6 | 11.0 | 214.0 | | | |
| | 2800 OTTA | 42 SER | 1457.0 | 1457.7 | 2.5 | 13.0 | 4.0 | | |
| | 4995 SGMR | 4 S/F | 1458.0E | 1500.0 | 5.00 | 390.0 | | | QL=1 ST=3 TYP=3 |
| | 15400 SGMR | 4 S/F | 1458.0E | 1500.0 | 5.00 | 360.0 | | | QL=1 ST=3 TYP=3 |
| | 15400 SVTO | 4 S/F | 1458.0E | 1500.0 | 4.00 | 330.0 | | | QL=1 ST=2 TYP=3 |
| | 1415 SGMR | 49 GB | 1500.0E | 1500.0 | 3.00 | 3200.0 | | | QL=1 ST=2 TYP=6 |
| | 2695 SGMR | 4 S/F | 1500.0E | 1500.0 | 3.00 | 310.0 | | | QL=1 ST=3 TYP=3 |
| | 410 SGMR | 8 S | 1500.0E | 1501.0 | 1.00 | 120.0 | | | QL=1 ST=3 TYP=3 |
| | 610 SGMR | 8 S | 1500.0E | 1501.0 | 1.00 | 130.0 | | | QL=1 ST=3 TYP=3 |
| | 8800 SGMR | 4 S/F | 1500.0E | 1500.0 | 3.00 | 270.0 | | | QL=1 ST=3 TYP=3 |
| | 2695 SVTO | 4 S/F | 1500.0E | 1500.0 | 3.00 | 230.0 | | | QL=1 ST=2 TYP=3 |
| | 8800 SVTO | 8 S | 1500.0E | 1500.0 | 2.00 | 190.0 | | | QL=1 ST=2 TYP=3 |
| | 1415 SVTO | 49 GB | 1500.0E | 1500.0 | 3.00 | 2800.0 | | | QL=1 ST=2 TYP=6 |
| | 4995 SVTO | 8 S | 1500.0E | 1500.0 | 2.00 | 260.0 | | | QL=1 ST=2 TYP=3 |
| | 2800 OTTA | 3 S | 1500.2 | 1500.9 | 5.3 | 471.0 | 95.0 | | |
| | 600 HUMN | 4 S/F | 1501.0 | 1503.0 | 2.7 | 55.0 | 6.0 | | |
| | 245 SGMR | 8 S | 1501.0E | 1501.0 | U | 160.0 | | | QL=1 ST=3 TYP=3 |
| 610 SVTO | 8 S | 1501.0E | 1503.0 | 2.00 | 150.0 | | | QL=1 ST=2 TYP=3 | |
| 410 SVTO | 8 S | 1501.0E | 1501.0 | U | 220.0 | | | QL=1 ST=2 TYP=3 | |
| 245 SVTO | 8 S | 1501.0E | 1501.0 | U | 110.0 | | | QL=1 ST=2 TYP=3 | |
| 410 SGMR | 8 S | 1505.0E | 1506.0 | 2.00 | 140.0 | | | QL=1 ST=2 TYP=3 | |
| 610 SGMR | 49 GB | 1505.0E | 1506.0 | 2.00 | 520.0 | | | QL=1 ST=2 TYP=6 | |
| 610 SVTO | 8 S | 1505.0E | 1506.0 | 1.00 | 300.0 | | | QL=1 ST=2 TYP=3 | |
| 410 SVTO | 8 S | 1505.0E | 1506.0 | 1.00 | 100.0 | | | QL=1 ST=2 TYP=3 | |
| 2800 OTTA | 29 PBI | 1505.5 | 1505.5 | 55.0 | 23.2 | 9.0 | | | |
| 600 HUMN | 42 SER | 1631.0 | 1643.0 | 31.0 | 60.0 | | | | |
| 610 SGMR | 8 S | 1642.0E | 1643.0 | 1.00 | 83.0 | | | QL=1 ST=2 TYP=3 | |
| 2800 OTTA | 3 S | 1731.0 | 1731.3 | 2.0 | 32.6 | 7.0 | | | |
| 8800 SGMR | 8 S | 1737.0E | 1737.0 | 1.00 | 120.0 | | | QL=1 ST=2 TYP=3 | |
| 15400 SGMR | 8 S | 1737.0E | 1737.0 | 1.00 | 72.0 | | | QL=1 ST=2 TYP=3 | |
| 4995 SGMR | 8 S | 1737.0E | 1737.0 | 1.00 | 100.0 | | | QL=1 ST=2 TYP=3 | |
| 2800 OTTA | 3 S | 1737.5 | 1737.8 | 3.0 | 28.5 | 6.0 | | | |
| 410 PALE | 49 GB | 1743.0E | 1746.0 | 3.00 | 4800.0 | | | QL=1 ST=3 TYP=7 | |

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

JUNE 1989

| 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 | 245 PALE | 49 GB | 1743.0E | 1746.0 | 3.00 | 2400.0 | | | QL=1 ST=3 TYP=7 |
| | 410 SGMR | 49 GB | 1743.0E | 1746.0 | 3.00 | 2500.0 | | | QL=1 ST=2 TYP=7 |
| | 245 SGMR | 49 GB | 1743.0E | 1746.0 | 4.00 | 2300.0 | | | QL=1 ST=2 TYP=7 |
| | 610 SGMR | 4 S/F | 1743.0E | 1746.0 | 4.00 | 440.0 | | | QL=1 ST=2 TYP=3 |
| | 410 SVTO | 8 S | 1743.0E | 1744.0 | 1.00 | 280.0 | | | QL=1 ST=2 TYP=3 |
| | 245 SVTO | 8 S | 1743.0E | 1744.0 | 1.00 | 490.0 | | | QL=1 ST=2 TYP=3 |
| | 600 HUMN | 8 S | 1743.0 | 1743.2 | 0.4 | 65.0 | 30.0 | | |
| | 610 PALE | 8 S | 1745.0E | 1746.0 | 2.00 | 400.0 | | | QL=1 ST=3 TYP=5 |
| | 410 SVTO | 49 GB | 1745.0E | 1746.0 | 1.00 | 3400.0 | | | QL=1 ST=2 TYP=6 |
| | 610 SVTO | 49 GB | 1745.0E | 1746.0 | 2.00 | 570.0 | | | QL=1 ST=2 TYP=6 |
| | 245 SVTO | 49 GB | 1745.0E | 1746.0 | 2.00 | 1800.0 | | | QL=1 ST=2 TYP=6 |
| | 2800 OTTA | 3 S | 1745.6 | 1746.2 | 2.5 | 25.6 | 5.0 | | |
| | 15400 PALE | 8 S | 1746.0E | 1746.0 | U | 90.0 | | | QL=1 ST=2 TYP=3 |
| | 1415 SGMR | 8 S | 1746.0E | 1746.0 | U | 73.0 | | | QL=1 ST=2 TYP=3 |
| | 15400 SGMR | 8 S | 1746.0E | 1746.0 | U | 96.0 | | | QL=1 ST=2 TYP=3 |
| | 600 HUMN | 3 S | 1746.0 | 1746.5 | 1.5 | 150.0 | 40.0 | | |
| | 410 SGMR | 8 S | 1837.0E | 1837.0 | U | 130.0 | | | QL=1 ST=2 TYP=3 |
| | 600 HUMN | 42 SER | 1838.0 | 1844.0 | 20.0 | 58.0 | | | |
| | 410 SGMR | 8 S | 1843.0E | 1844.0 | 1.00 | 89.0 | | | QL=1 ST=2 TYP=3 |
| | 610 SGMR | 8 S | 1844.0E | 1844.0 | U | 99.0 | | | QL=1 ST=2 TYP=3 |
| | 8800 PALE | 8 S | 1944.0E | 1945.0 | 1.00 | 340.0 | | | QL=1 ST=2 TYP=3 |
| | 610 SGMR | 8 S | 2059.0E | 2059.0 | U | 70.0 | | | QL=1 ST=2 TYP=3 |
| | 410 SGMR | 8 S | 2354.0E | 2354.0 | 1.00 | 86.0 | | | QL=1 ST=2 TYP=3 |
| 610 SGMR | 8 S | 2354.0E | 2354.0 | 1.00 | 65.0 | | | QL=1 ST=2 TYP=3 | |
| 245 SGMR | 8 S | 2354.0E | 2354.0 | 1.00 | 290.0 | | | QL=1 ST=2 TYP=3 | |

Reports are received routinely from the following observatories:

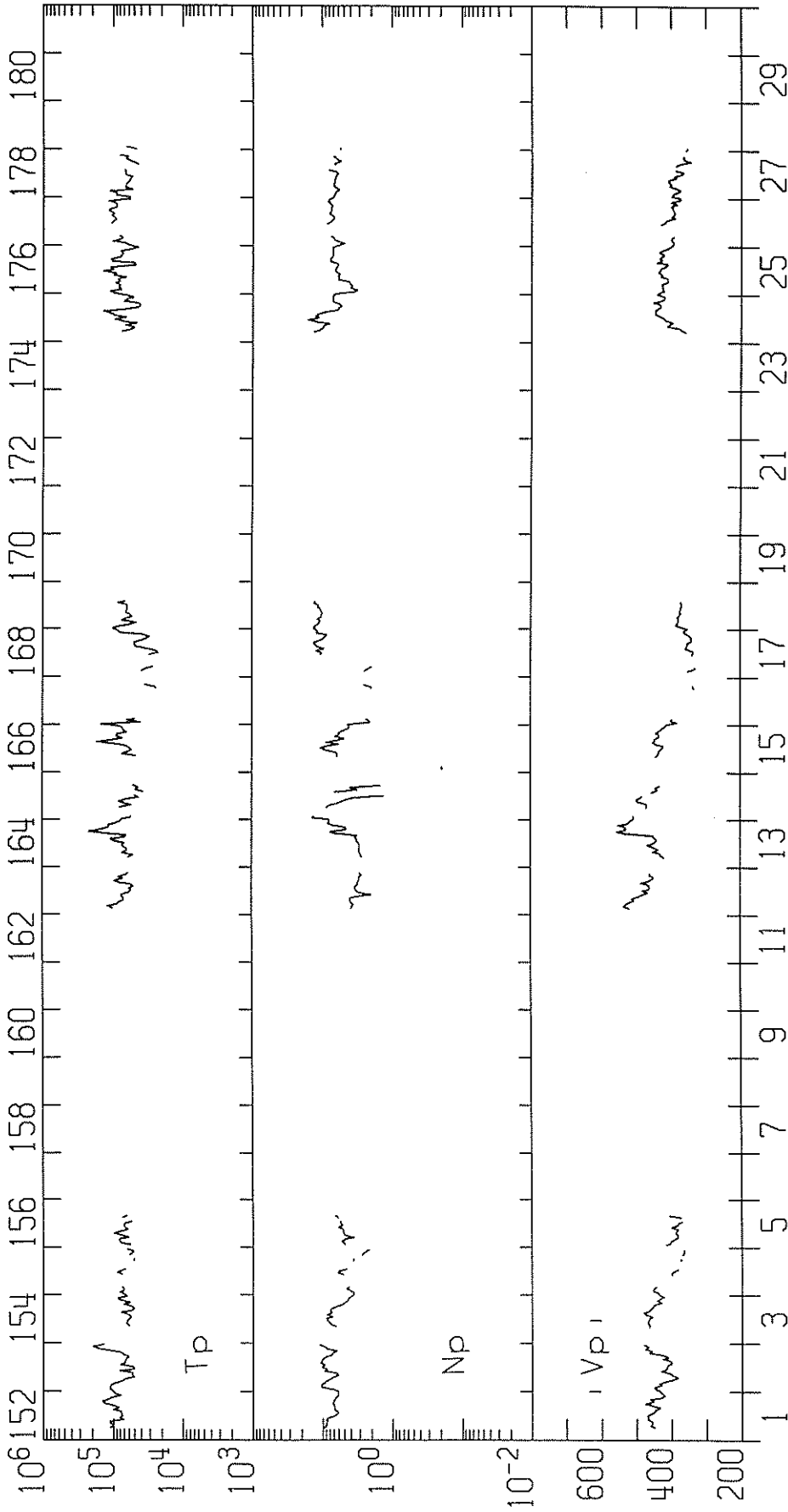
| | | | |
|-----------------|-------------------|----------------------|-----------------|
| BERN = Berne | IZMI = IZMIRAN | ONDR = Ondrejov | SVTO = San Vito |
| CRIM = Crimea | KISK = Kislovodsk | OTTA = Ottawa | SYDN = Sydney |
| GORK = Gorky | KRAK = Krakow | PALE = Palehua | TORN = Torun |
| HIRA = Hiraiso | LEAR = Learmonth | PENT = Penticton | TRST = Trieste |
| HUAN = Huancayo | NOBE = Nobeyama | POTS = Potsdam | TYKW = Toyokawa |
| | | SGMR = Sagamore Hill | UPIC = Upice |

Explanation of Type Code:

| | | | | |
|-------------------|-----------------|------------------------|---------------------------|----------------------------|
| 1 Simple 1 | 7 Minor + | 24 Rise | 30 Post Burst Increase A | 43 Onset of 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 | 33 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 Burst |
| 6 Minor | 23 Simple 3AF | 29 Post Burst Increase | 42 Series of Bursts | 48 Major |
| 1A Simple 1A | 4A Simple 2AF | 24PF Post Rise F | 27F Rise and Fall F | |
| 3A Simple 2A | 4O Rise Only | 16A Fall A | 27AF Rise and Fall AF | |
| 21A Simple 3A GRF | 4OF Rise Only F | 26O Fall Only | 31A Post Burst Decrease A | |
| 2A Simple 1AF | 4P Post Rise | 26F Fall F | 32A Absorption A | |

RSTN Site Information: Beginning in April 1986, the RSTN sites LEAR, PALE, SGMR, and SVTO fixed frequency solar radio data are periodically adjusted to several world standard stations. These world standard stations include: Kislovodsk, USSR 15,500 MHz; Ottawa, Canada 2800 MHz; Hiraiso, Japan 500 and 200 MHz; and Toyokawa, Japan 9400, 3750, 2000 and 1000 MHz.

IMP 8 SOLAR WIND PLASMA
JUNE 1989



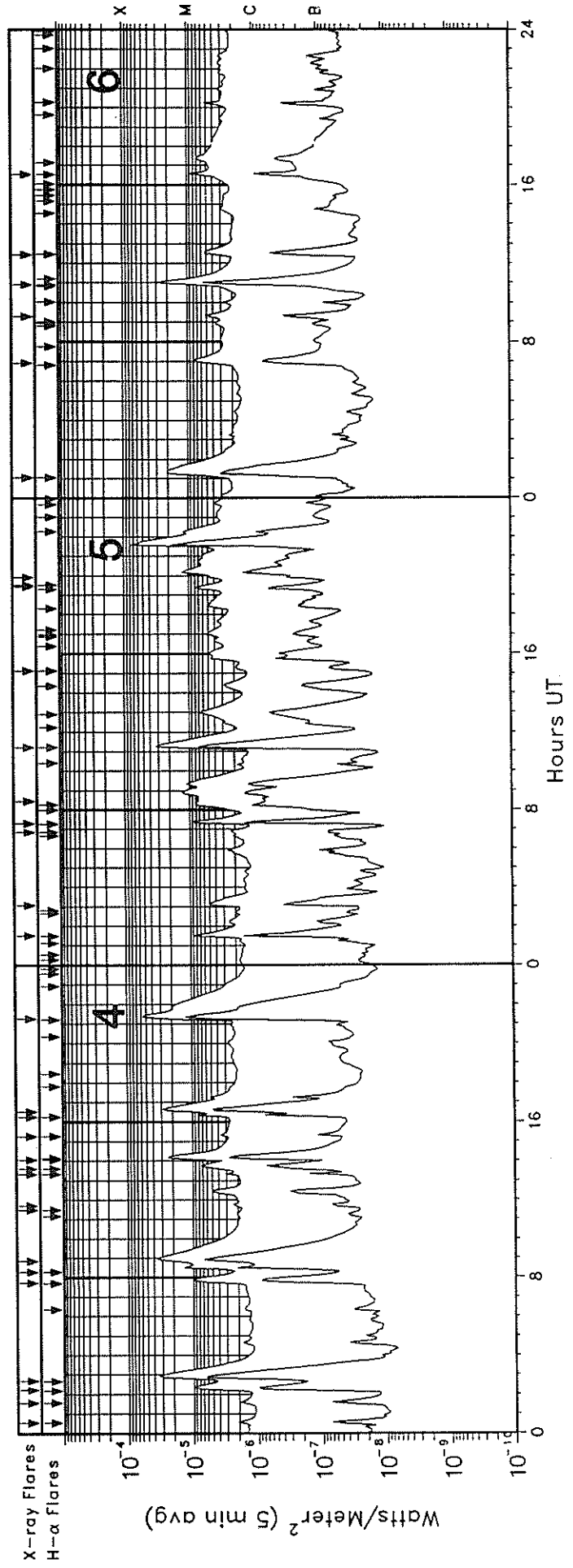
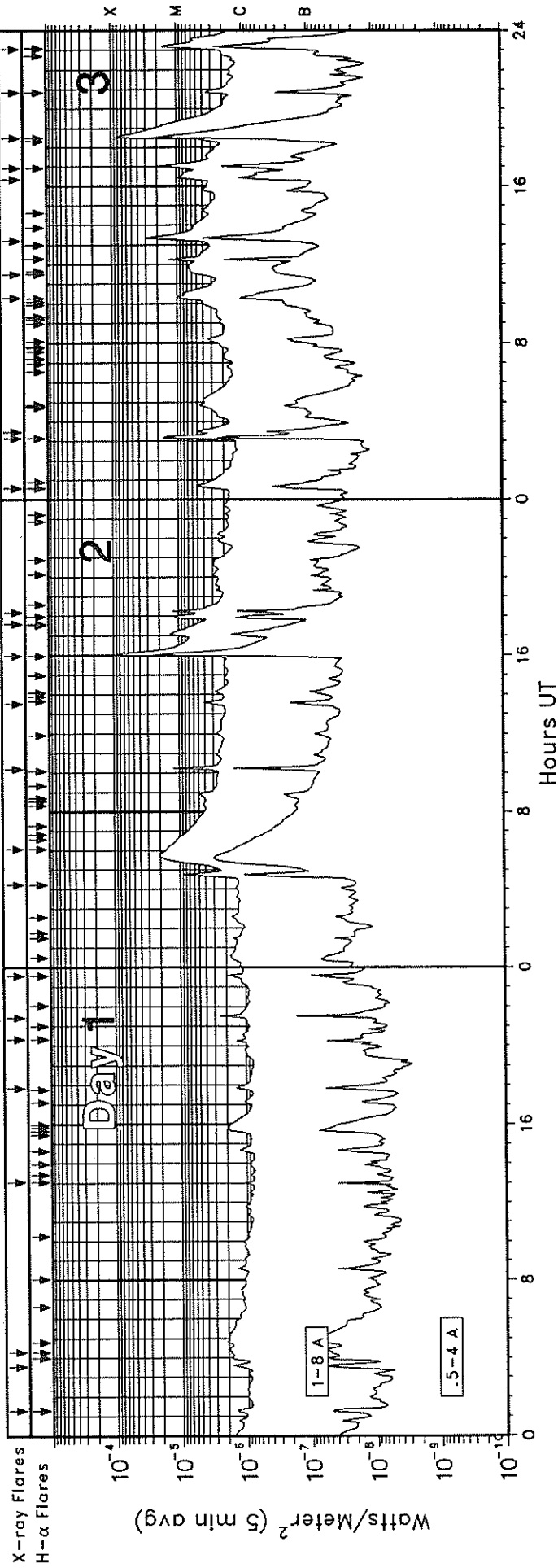
JUN 1989

JUN 1989

IMP 8 MIT PRELIMINARY ONE-HOUR AVERAGES

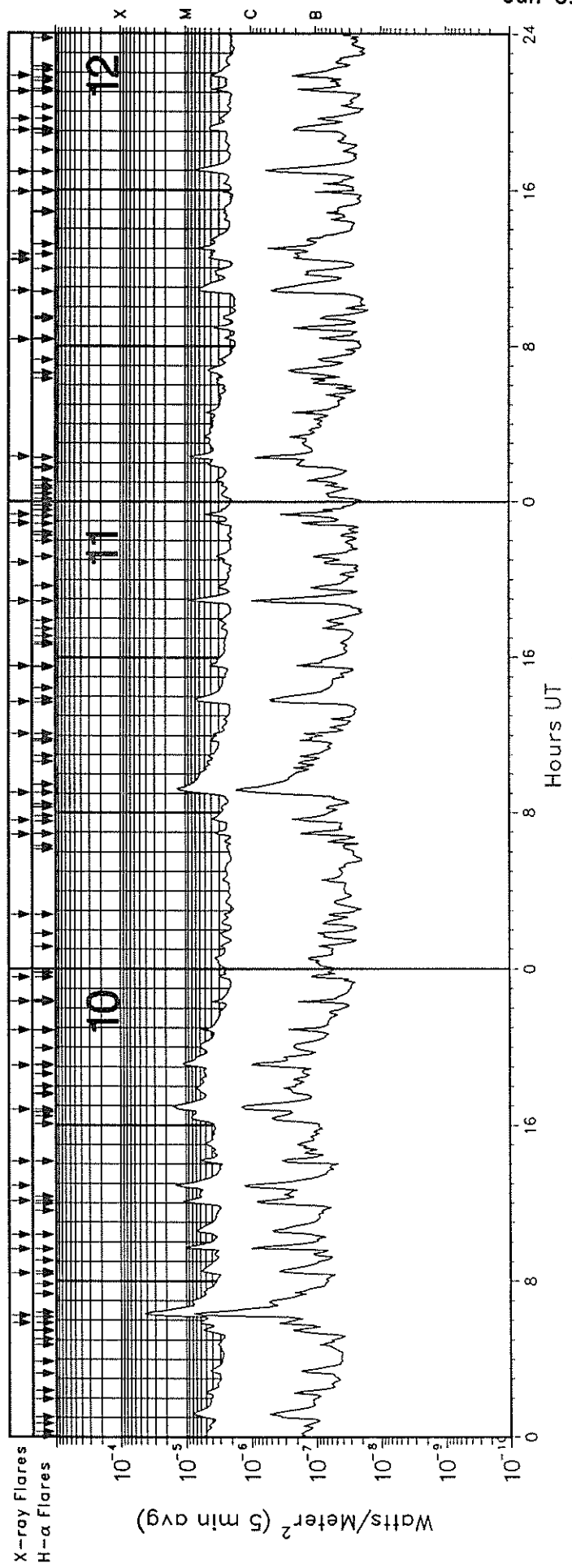
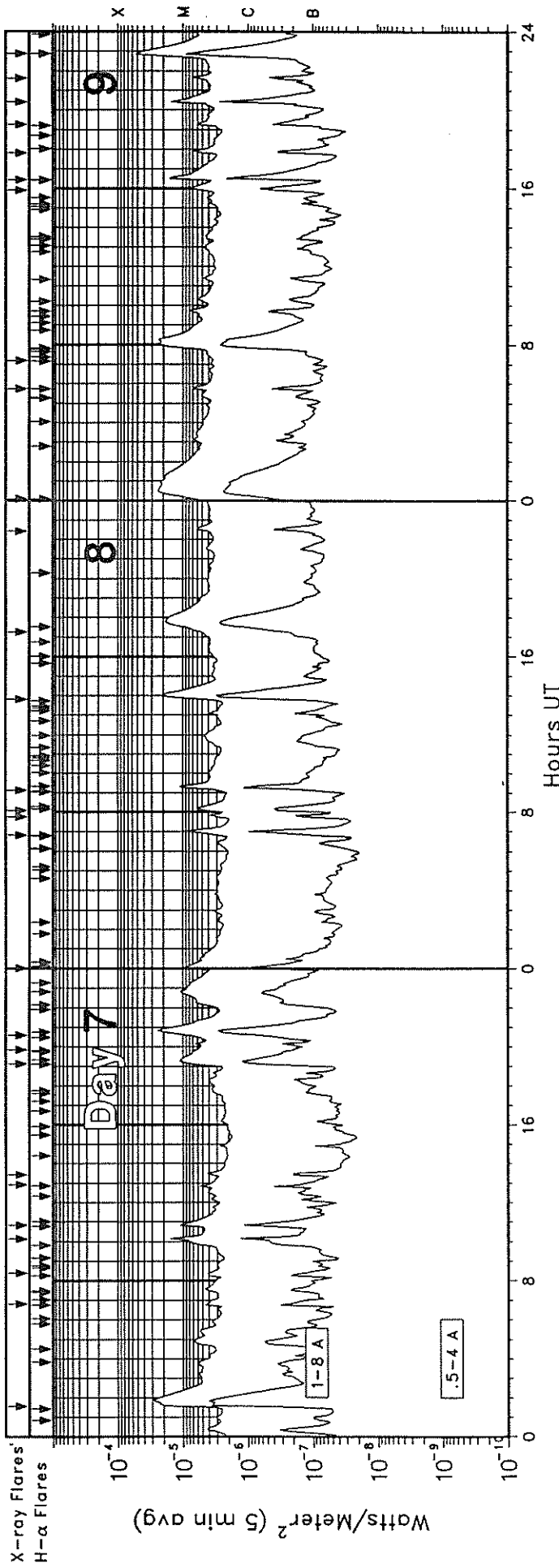
GOES-7 X-RAY DETECTOR

June 1989



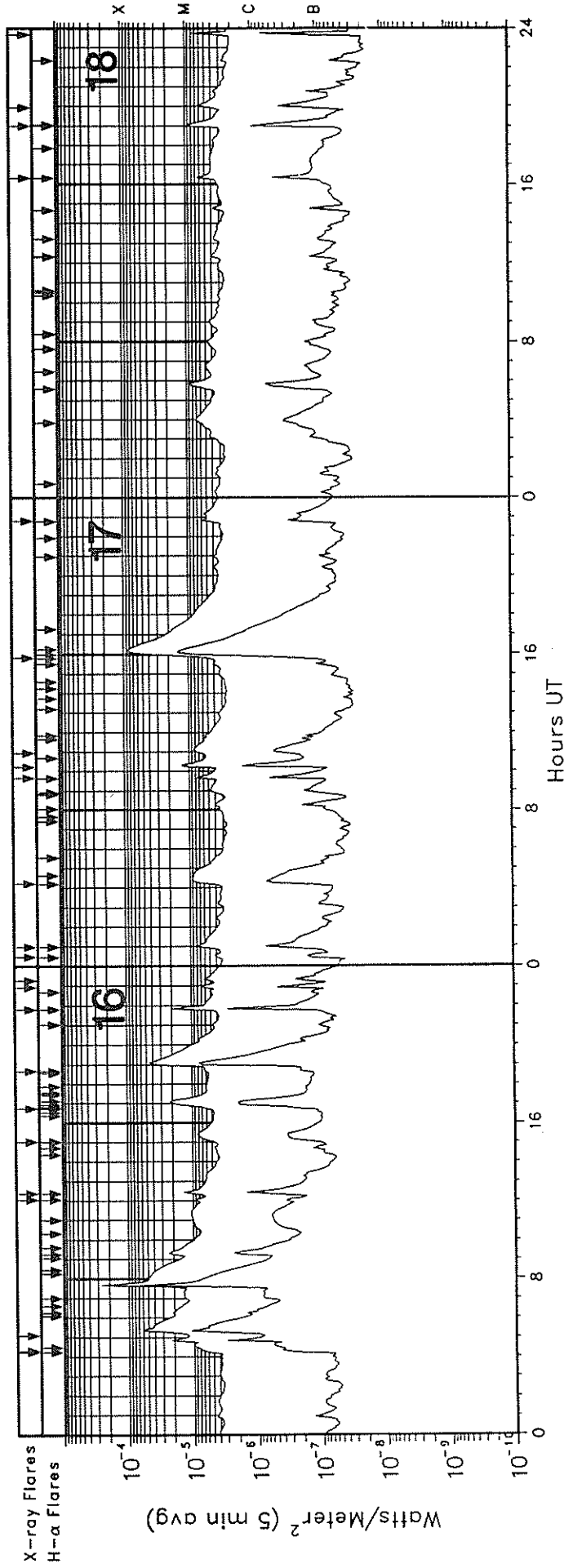
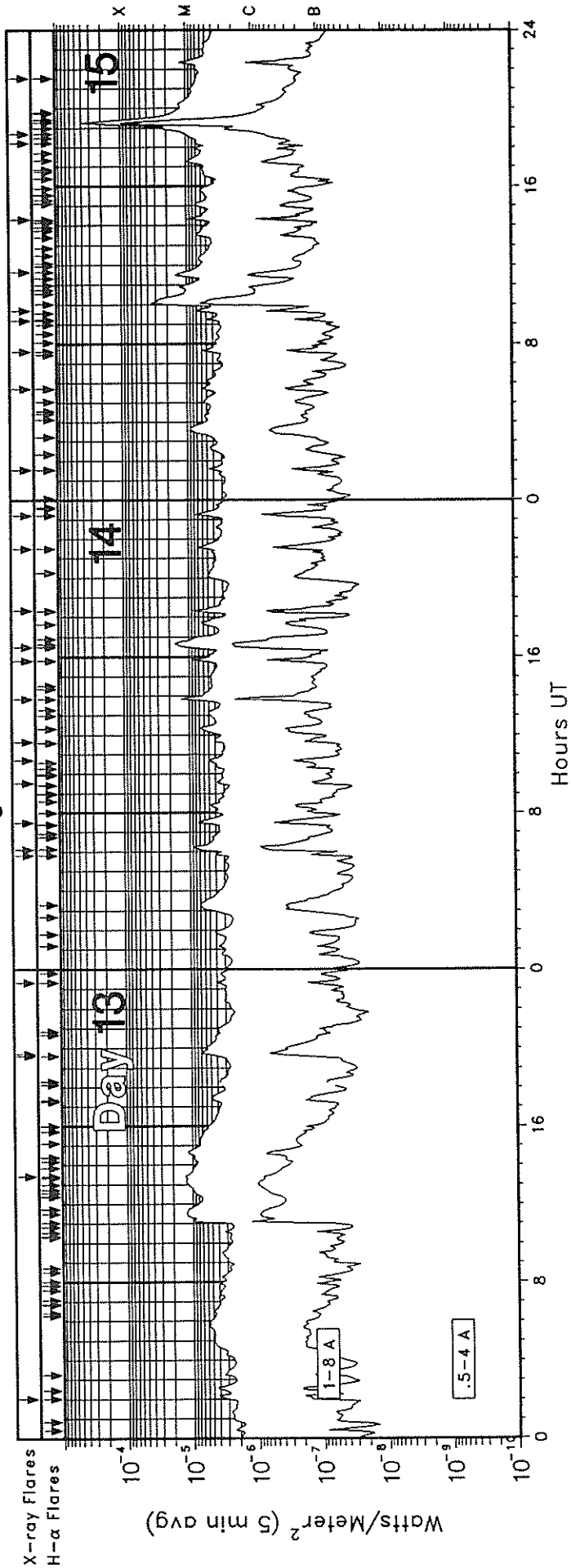
GOES-7 X-RAY DETECTOR

June 1989



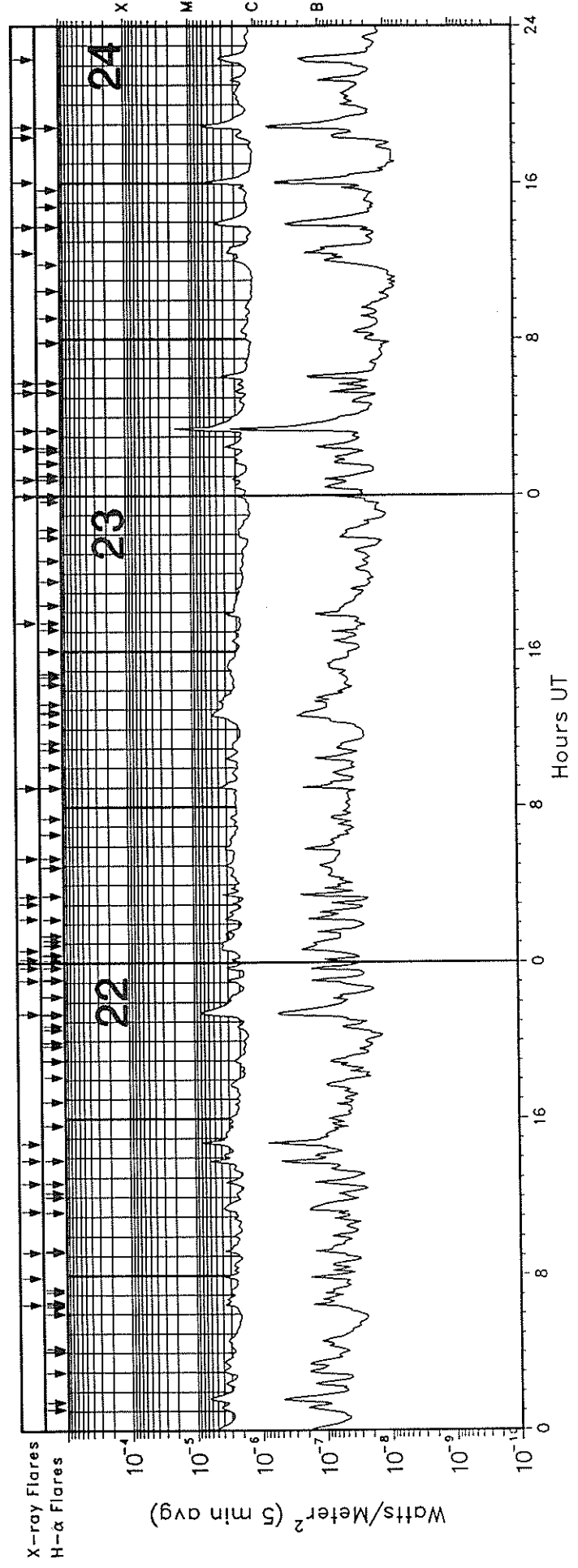
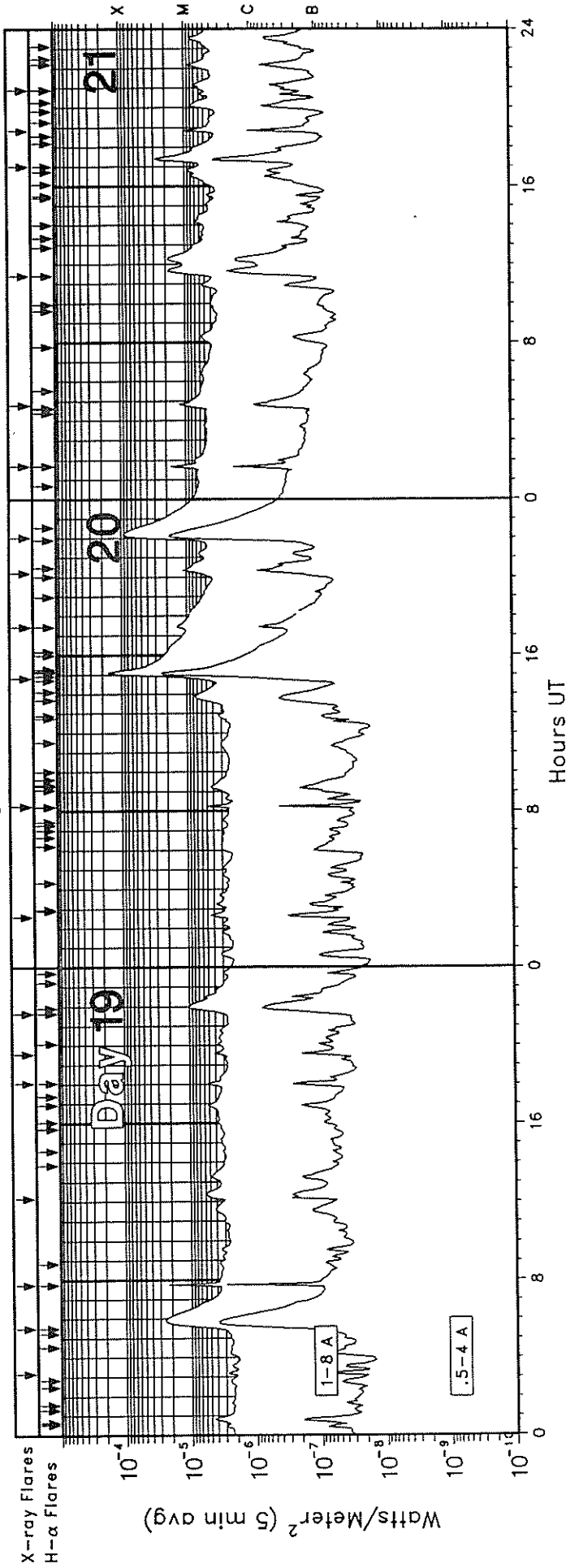
GOES-7 X-RAY DETECTOR

June 1989



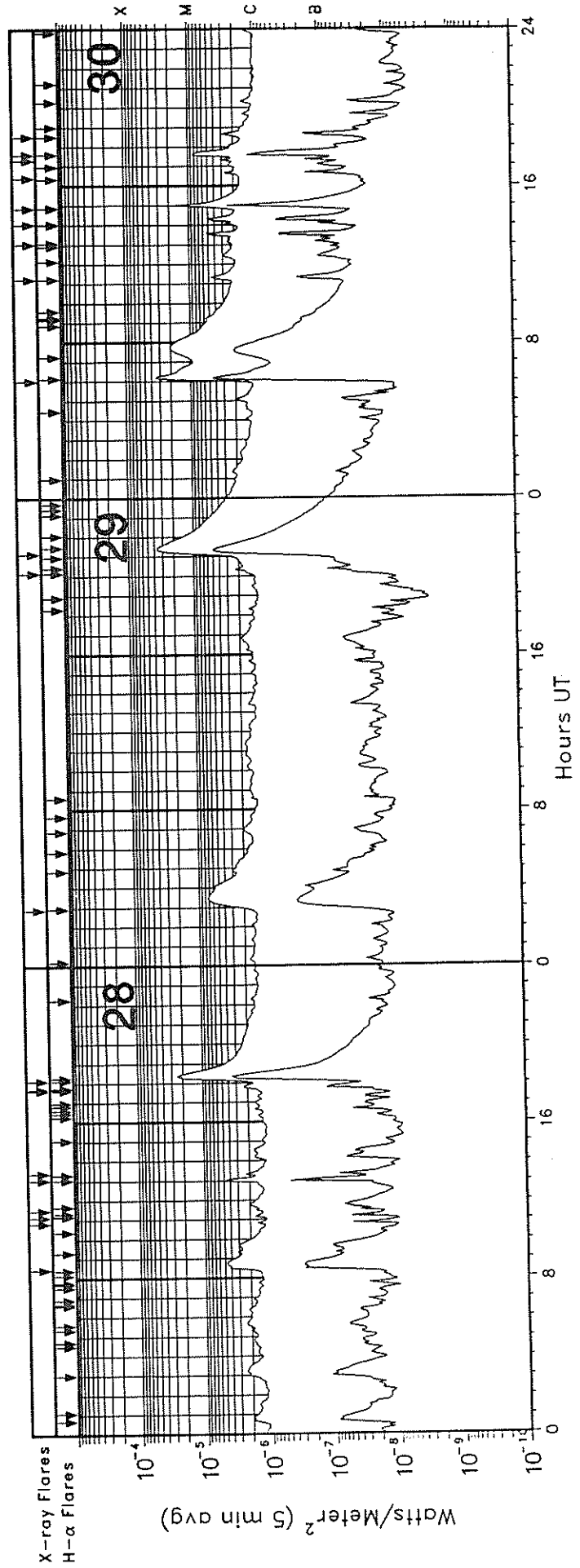
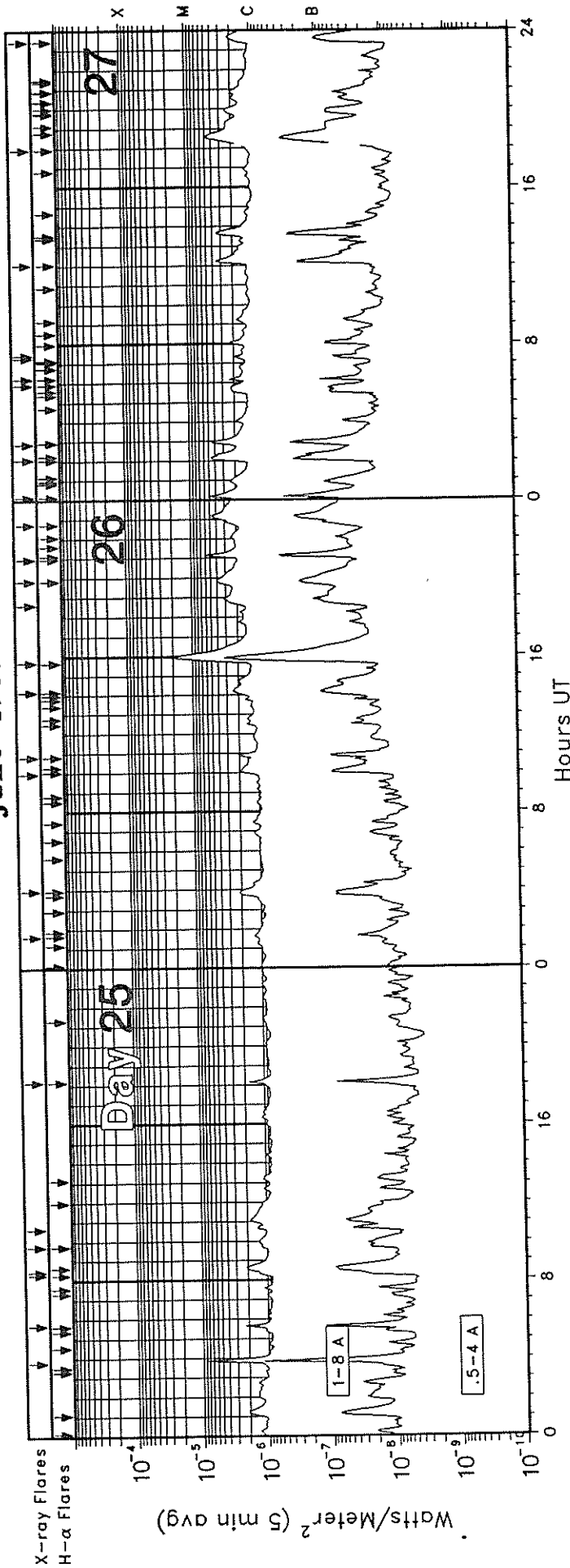
GOES-7 X-RAY DETECTOR

June 1989



GOES-7 X-RAY DETECTOR

June 1989



GOES SOLAR X-RAY FLARES
Preliminary Listing

121
Jun 89

June 1989

| Day | Start (UT) | Max (UT) | End (UT) | Lat | CMD | Imp Opt | Xray | NOAA/USAF Region |
|-----|------------|----------|----------|-----|-----|---------|------|------------------|
| 01 | 0117E | 0119 | 0130D | S19 | E77 | SF | C1.9 | 5517 |
| 01 | 0332 | 0337 | 0342 | | | | C1.7 | |
| 01 | 0417E | 0431 | 0453D | S22 | W17 | SF | C2.1 | 5515 |
| 01 | 1303E | 1305 | 1310D | S26 | E82 | SF | C1.5 | 5517 |
| 01 | 1750E | 1753 | 1817D | S21 | W17 | SF | C1.5 | 5511 |
| 01 | 2019 | 2021U | 2035 | S18 | E56 | SF | C2.0 | 5517 |
| 01 | 2125E | 2131 | 2201D | S18 | E67 | 1N | C3.0 | 5517 |
| 01 | 2334 | 2338 | 2350D | S18 | E64 | 1F | C2.4 | 5517 |
| 02 | 0414E | 0446 | 0503D | S20 | E60 | 2N | C9.8 | 5517 |
| 02 | 0605E | 0606 | 0619D | S20 | E61 | SF | M2.0 | 5517 |
| 02 | 1012 | 1016 | 1021 | | | | M1.5 | |
| 02 | 1331 | 1337 | 1342 | | | | C4.6 | |
| 02 | 1557E | 1607 | 1657D | S24 | E59 | 2B | X1.3 | 5517 |
| 02 | 1735E | 1738 | 1752 | S22 | W31 | SF | M1.3 | 5511 |
| 02 | 1810E | 1815 | 1946D | S19 | E53 | 1N | M1.4 | 5517 |
| 02 | 1811E | 1815 | 1843D | S20 | E56 | 1B | M1.7 | 5517 |
| 03 | 0034E | 0039 | 0056D | S19 | E53 | SF | C5.3 | 5517 |
| 03 | 0308E | 0314 | 0403D | S19 | E46 | 3B | M2.1 | 5517 |
| 03 | 0328 | 0333 | 0337 | | | | C5.5 | |
| 03 | 1017 | 1020U | 1034D | S16 | E43 | 1B | M1.5 | 5517 |
| 03 | 1130E | 1218 | 1243D | S21 | E78 | 1N | M2.5 | 5520 |
| 03 | 1313E | 1325 | 1412D | S18 | E48 | 2B | M3.2 | 5517 |
| 03 | 1620 | 1628 | 1650 | | | | C9.8 | |
| 03 | 1656E | 1705 | 1721D | N32 | W56 | SF | M2.0 | 5507 |
| 03 | 1829E | 1844 | 1940D | S22 | E77 | 1F | X1.0 | 5521 |
| 03 | 2050E | 2050 | 2059D | S19 | E75 | SF | C4.0 | 5521 |
| 03 | 2303E | 2304 | 2313D | N13 | E04 | SF | M1.8 | 5516 |
| 04 | 0033E | 0034 | 0049D | S21 | E76 | SF | C2.3 | 5521 |
| 04 | 0133E | 0136 | 0158D | S20 | E39 | SF | C2.0 | 5517 |
| 04 | 0213E | 0216 | 0304D | S19 | E34 | SN | M1.0 | 5517 |
| 04 | 0241E | 0255 | 0402D | S16 | E72 | 2N | M3.4 | 5521 |
| 04 | 0743E | 0747 | 0818D | N31 | W64 | 2N | M1.0 | 5507 |
| 04 | 0817E | 0834 | 0916D | S20 | E71 | 2N | M1.6 | 5521 |
| 04 | 0851 | 0900 | 0953 | | | | M3.7 | |
| 04 | 1129E | 1230 | 1237D | S20 | E70 | SN | C5.6 | 5521 |
| 04 | 1142 | 1146 | 1149 | | | | C2.6 | |
| 04 | 1320E | 1321 | 1328D | S20 | E73 | SF | C3.4 | 5521 |
| 04 | 1336E | 1349 | 1406D | S21 | E73 | SF | C8.0 | 5521 |
| 04 | 1404E | 1413 | 1515D | S20 | E34 | 2B | M2.5 | 5517 |
| 04 | 1516E | 1521 | 1540D | S21 | E32 | SF | C3.9 | 5517 |
| 04 | 1616E | 1624 | 1747D | S20 | E69 | 1N | C9.5 | 5521 |
| 04 | 1631 | 1641 | 1711 | | | | M2.9 | |
| 04 | 2116E | 2129 | 2225D | S23 | E67 | 2F | M6.0 | 5521 |
| 05 | 0131E | 0131 | 0141D | S21 | E64 | SF | M1.0 | 5521 |
| 05 | 0305 | 0309 | 0319 | | | | C6.7 | |
| 05 | 0651E | 0654 | 0658D | N17 | W81 | SF | C2.7 | 5506 |
| 05 | 0718 | 0725 | 0734 | | | | M1.0 | |
| 05 | 0827E | 0858 | 0938 | S18 | E62 | SB | M1.3 | 5521 |
| 05 | 1112E | 1114 | 1209D | S21 | E59 | 1B | M3.4 | 5521 |
| 05 | 1508E | 1546 | 1626D | S20 | E57 | SF | C4.9 | 5521 |
| 05 | 1931 | 1933 | 2015D | N12 | W03 | 1F | C8.4 | 5525 |
| 05 | 1926 | 2136U | 2315 | S21 | E52 | 2B | X1.0 | 5521 |
| 05 | 1955 | 2013 | 2116 | | | | M1.2 | |
| 06 | 0103E | 0116 | 0202 | S20 | E50 | SN | M2.1 | 5521 |
| 06 | 0655 | 0707 | 0716 | | | | C7.9 | |
| 06 | 0917 | 0922 | 0926 | | | | C5.5 | |
| 06 | 1054 | 1104 | 1127 | | | | M3.1 | |
| 06 | 1226 | 1235 | 1247 | | | | C5.4 | |
| 06 | 1632E | 1634 | 1825D | S19 | E41 | SN | M1.0 | 5521 |

| Day | Start (UT) | Max (UT) | End (UT) | Lat | CMD | Imp Opt | Xray | NOAA/USAF Region |
|-----|------------|----------|----------|-----|-----|---------|------|------------------|
| 07 | 0134E | 0135 | 0228D | S21 | E36 | SN | M3.0 | 5521 |
| 07 | 0648E | 0649 | 0659D | S18 | E37 | SF | C7.8 | 5521 |
| 07 | 0823 | 0823 | 0840D | S18 | E31 | 1N | C4.2 | 5521 |
| 07 | 1008E | 1010 | 1020D | S16 | E35 | 1N | M1.8 | 5521 |
| 07 | 1049E | 1051 | 1113D | S20 | E33 | SN | M1.1 | 5521 |
| 07 | 1255 | 1257U | 1305D | N16 | E90 | 1N | C7.4 | 5528 |
| 07 | 1326 | 1331 | 1335 | | | | C4.8 | |
| 07 | 1908E | 1911 | 1958D | S20 | E29 | SN | M1.1 | 5521 |
| 07 | 1950E | 1951 | 2016D | S10 | E86 | SF | C7.0 | 5530 |
| 07 | 2036E | 2050 | 2132D | S19 | E27 | 1N | M2.4 | 5521 |
| 08 | 0001 | 0006 | 0018 | | | | C9.4 | |
| 08 | 0650E | 0703 | 0716D | S20 | E25 | SN | C9.9 | 5521 |
| 08 | 0746 | 0751 | 0754 | | | | C4.5 | |
| 08 | 0805 | 0817 | 0822 | | | | C6.4 | |
| 08 | 0908E | 0920 | 0953D | S20 | E24 | 1N | M1.2 | 5521 |
| 08 | 1349 | 1405 | 1437 | | | | M2.1 | |
| 08 | 1715 | 1753 | 1850 | | | | M1.8 | |
| 08 | 2225 | 2228 | 2238 | | | | C6.8 | |
| 09 | 0006E | 0032U | 0159 | S22 | E09 | 2F | M2.3 | 5521 |
| 09 | 0544E | 0548 | 0557D | N23 | E72 | SF | C8.3 | 5528 |
| 09 | 0711E | 0816 | 0855D | S20 | E10 | SF | M2.4 | 5521 |
| 09 | 1554 | 1604 | 1613 | | | | C7.7 | |
| 09 | 1627E | 1631 | 1637 | S20 | E90 | SF | M1.9 | 5533 |
| 09 | 1749 | 1756 | 1801 | | | | C7.3 | |
| 09 | 1915E | 1920 | 1936D | S12 | E67 | 1F | C7.8 | 5530 |
| 09 | 2024 | 2029 | 2054 | | | | M2.4 | |
| 09 | 2137 | 2141 | 2147 | | | | M1.0 | |
| 09 | 2252E | 2255 | 2258D | S20 | E90 | SF | M6.3 | 5533 |
| 10 | 0552E | 0552 | 0605D | N28 | E65 | SF | C7.1 | 5528 |
| 10 | 0614E | 0620 | 0635D | S18 | E90 | 2N | M5.0 | 5533 |
| 10 | 0825E | 0829 | 0841D | N27 | E63 | SF | C5.8 | 5528 |
| 10 | 0938E | 0946 | 0957D | S17 | E90 | 1N | M1.3 | 5533 |
| 10 | 1022E | 1029 | 1036D | S16 | E78 | SF | C8.1 | 5533 |
| 10 | 1207E | 1207 | 1217D | S21 | W09 | SF | M1.2 | 5521 |
| 10 | 1253E | 1256 | 1302D | N25 | E61 | SN | M1.5 | 5528 |
| 10 | 1408E | 1414 | 1425D | S20 | E85 | SB | C6.8 | 5533 |
| 10 | 1650E | 1656 | 1725D | S20 | E81 | 1N | M1.7 | 5533 |
| 10 | 1904E | 1911 | 1920D | S20 | E80 | SB | M1.2 | 5533 |
| 10 | 2054 | 2057U | 2102 | S18 | W14 | SF | C6.8 | 5521 |
| 10 | 2221E | 2223 | 2226D | S20 | E77 | SF | C4.3 | 5533 |
| 10 | 2335E | 2339 | 2349D | S19 | W13 | SF | C3.6 | 5521 |
| 11 | 0249E | 0259 | 0306 | S21 | E74 | SF | C3.1 | 5533 |
| 11 | 0654 | 0701 | 0706 | | | | C3.8 | |
| 11 | 0738 | 0742 | 0750 | | | | C4.0 | |
| 11 | 0902E | 0911 | 0932D | S18 | E72 | SF | M1.5 | 5533 |
| 11 | 1206E | 1208 | 1222D | S16 | E64 | SF | C4.3 | 5533 |
| 11 | 1343E | 1348 | 1402D | S19 | E68 | SF | C7.3 | 5533 |
| 11 | 1533 | 1535 | 1544 | S20 | E63 | SN | C4.3 | 5533 |
| 11 | 1853E | 1856 | 1918D | S20 | E66 | SN | C9.4 | 5533 |
| 11 | 2052 | 2055 | 2104 | | | | C2.8 | |
| 11 | 2253E | 2254 | 2257D | S19 | E57 | SF | C4.0 | 5533 |
| 11 | 2320E | 2321 | 2340D | S16 | E58 | SN | C5.8 | 5533 |
| 12 | 0219E | 0219 | 0236D | S22 | E61 | SF | M1.2 | 5533 |
| 12 | 0820E | 0858 | 0909D | S19 | E61 | SF | C4.5 | 5533 |
| 12 | 1050E | 1053 | 1119D | S18 | E59 | SF | C6.4 | 5533 |
| 12 | 1223 | 1226 | 1228 | | | | C2.7 | |
| 12 | 1228 | 1246 | 1251 | | | | C4.6 | |
| 12 | 1242E | 1305 | 1339D | S16 | E51 | SN | C7.6 | 5533 |
| 12 | 1555E | 1555 | 1603D | N24 | E33 | SF | C3.1 | 5528 |

122
Jun 89

GOES SOLAR X-RAY FLARES
Preliminary Listing

June 1989

| Day | Start (UT) | Max (UT) | End (UT) | Lat | CMD | Imp Opt | Xray | NOAA/USAF Region |
|-----|------------|----------|----------|-----|-----|---------|------|------------------|
| 12 | 1656E | 1701 | 1732D | S19 | E55 | 1N | C7.0 | 5533 |
| 12 | 1902E | 1906 | 1927D | S16 | E47 | SF | C4.4 | 5533 |
| 12 | 1938E | 1939 | 1944D | N20 | E29 | SN | C3.4 | 5528 |
| 12 | 2101E | 2110 | 2124D | N18 | E25 | SF | C4.0 | 5528 |
| 12 | 2149E | 2200 | 2229D | S20 | E53 | SN | C4.0 | 5533 |
| 13 | 0201E | 0211 | 0224D | N20 | E22 | SF | C4.8 | 5528 |
| 13 | 1326E | 1327 | 1331D | N20 | E17 | SF | M1.3 | 5528 |
| 13 | 1937E | 1943 | 2025D | N19 | E14 | SF | C4.2 | 5528 |
| 13 | 1942E | 1943 | 2008D | N19 | E14 | SF | C7.0 | 5528 |
| 13 | 2319E | 2319 | 2328D | S21 | E37 | SF | C4.4 | 5533 |
| 14 | 0549 | 0555 | 0603 | | | | C4.2 | |
| 14 | 0606 | 0618 | 0629 | | | | M1.0 | |
| 14 | 0730 | 0730U | 0749 | N15 | E01 | SF | C7.7 | 5528 |
| 14 | 0931 | 0935 | 0940 | | | | C4.4 | |
| 14 | 1042 | 1045 | 1047 | | | | C6.7 | |
| 14 | 1139E | 1140 | 1156 | N14 | W02 | SF | C4.4 | 5528 |
| 14 | 1350E | 1355 | 1413D | S16 | W75 | 1N | M2.7 | 5521 |
| 14 | 1547E | 1547 | 1559D | N17 | W01 | SF | M1.0 | 5528 |
| 14 | 1629E | 1637 | 1704D | S18 | W80 | SF | M1.6 | 5521 |
| 14 | 1820E | 1820U | 1859 | N16 | W05 | SF | M1.3 | 5528 |
| 14 | 2130 | 2135U | 2159D | S15 | W77 | SF | C7.3 | 5521 |
| 14 | 2313 | 2313U | 2339D | S21 | E25 | SF | C7.8 | 5533 |
| 15 | 0132E | 0134 | 0141D | N17 | W09 | SF | C5.1 | 5528 |
| 15 | 0542E | 0547 | 0600D | S20 | E19 | SN | C6.3 | 5533 |
| 15 | 0736 | 0742 | 0747 | | | | C6.3 | |
| 15 | 0912 | 0917 | 0923 | | | | C5.1 | |
| 15 | 0942 | 0945 | 0949 | | | | M1.0 | |
| 15 | 1139E | 1140 | 1147D | N20 | E90 | SF | M1.6 | 5544 |
| 15 | 1419E | 1420 | 1507D | N15 | W22 | SN | M1.0 | 5528 |
| 15 | 1813E | 1914 | 2041D | S21 | E08 | 3B | X4.1 | 5533 |
| 15 | 1841E | 1855 | 1936D | N16 | W16 | SF | M2.4 | 5528 |
| 15 | 2132E | 2223 | 2243D | N16 | W17 | SN | M1.2 | 5528 |
| 16 | 0415 | 0513U | 0513 | S16 | E04 | 1F | M2.5 | 5533 |
| 16 | 0419 | | 0445D | S17 | E03 | 1N | X3.0 | 5533 |
| 16 | 0505 | 0522U | 0522 | S16 | E04 | 2N | M6.8 | 5533 |
| 16 | 1203E | 1205 | 1211D | S19 | W70 | SF | M1.0 | 5524 |
| 16 | 1223E | 1226 | 1240D | S18 | W01 | SN | M1.4 | 5533 |
| 16 | 1502E | 1513 | 1549D | N17 | W11 | 1F | C8.4 | 5536 |
| 16 | 1644E | 1654 | 1748D | S18 | W08 | 1N | M2.4 | 5533 |
| 16 | 1840E | 1903 | 2022D | S21 | W02 | 1B | M4.9 | 5533 |
| 16 | 2148E | 2151 | 2252D | S21 | W07 | SB | M2.5 | 5533 |
| 16 | 2255 | 2259 | 2304 | | | | C7.6 | |
| 16 | 2317 | 2321 | 2332 | | | | C6.6 | |
| 17 | 0029E | 0030 | 0038D | S17 | W08 | SF | C4.7 | 5533 |
| 17 | 0059E | 0101 | 0113D | S18 | W08 | SF | C9.3 | 5533 |
| 17 | 0413E | 0419 | 0545D | S20 | W11 | 1F | C9.1 | 5533 |
| 17 | 0940E | 0944 | 0952D | S19 | W17 | SN | C9.7 | 5533 |
| 17 | 1014 | 1020 | 1039 | | | | M1.6 | |
| 17 | 1057E | 1100 | 1126D | S19 | W13 | SF | C8.3 | 5533 |
| 17 | 1549E | 1616 | 1750 | N16 | W40 | 2B | M8.7 | 5528 |
| 17 | 2248 | 2252 | 2317 | | | | C5.9 | |
| 18 | 1619E | 1622 | 1645D | N15 | W57 | SF | C6.8 | 5528 |
| 18 | 1900E | 1900 | 1920D | N20 | W60 | SN | M1.0 | 5528 |
| 18 | 1956 | 2004 | 2015 | | | | C6.4 | |
| 18 | 2340E | 2343 | 2350 | S21 | E85 | SN | M1.0 | |
| 19 | 0310 | 0315 | 0318 | | | | C3.2 | |
| 19 | 0530E | 0540 | 0647 | N15 | W59 | SN | M2.5 | 5528 |

| Day | Start (UT) | Max (UT) | End (UT) | Lat | CMD | Imp Opt | Xray | NOAA/USAF Region |
|-----|------------|----------|----------|-----|-----|---------|------|------------------|
| 19 | 0744E | 0748 | 0754D | S17 | E81 | 1N | M3.1 | 5552 |
| 19 | 1210 | 1225 | 1237 | | | | C6.8 | |
| 19 | 1803 | 1804U | 1808D | N27 | E88 | SF | C6.5 | 5555 |
| 19 | 1933 | 1938 | 1944 | | | | C4.2 | |
| 19 | 2138E | 2158U | 2237D | S17 | W40 | 1N | M1.0 | 5533 |
| 20 | 0236 | 0241 | 0248 | | | | C4.8 | |
| 20 | 0815E | 0817 | 0828D | S18 | E85 | SN | C6.1 | 5552 |
| 20 | 1448 | 1508 | 1720 | | | | X1.6 | |
| 20 | 1725 | 1726U | 1745D | S19 | E68 | SN | M1.5 | 5552 |
| 20 | 2012 | 2020 | 2047D | S18 | W54 | 1F | M1.1 | 5533 |
| 20 | 2201 | 2208U | 2315D | N18 | W81 | 1N | M9.3 | 5528 |
| 21 | 0142E | 0142 | 0156D | S18 | E56 | SF | M1.7 | 5552 |
| 21 | 0447 | 0451U | 0503D | S19 | E61 | 1N | M1.4 | 5552 |
| 21 | 1125E | 1137 | 1332D | N27 | E60 | SN | M1.9 | 5555 |
| 21 | 1701 | 1726 | 1802D | N26 | E60 | 1N | M3.0 | 5555 |
| 21 | 1849E | 1851 | 1937D | N26 | E59 | SN | M1.1 | 5555 |
| 21 | 2054 | 2108 | 2123D | N27 | E59 | SN | C6.6 | 5555 |
| 22 | 0630E | 0631 | 0636D | S19 | E69 | SF | C4.2 | 5556 |
| 22 | 0752 | 0757 | 0803 | | | | C3.7 | |
| 22 | 0912E | 0916 | 0925D | S16 | E36 | SF | C3.8 | 5552 |
| 22 | 1117 | 1124U | 1310 | N24 | E51 | SF | C4.1 | 5555 |
| 22 | 1242 | 1246 | 1252 | | | | C3.6 | |
| 22 | 1353E | 1445 | 1619D | N25 | E46 | SN | C6.7 | 5555 |
| 22 | 1444E | 1445 | 1520D | N27 | E50 | SN | C8.4 | 5555 |
| 22 | 2124E | 2125 | 2143D | N22 | E76 | SF | C7.8 | 5557 |
| 22 | 2307E | 2308 | 2318D | N27 | E45 | SF | C3.6 | 5555 |
| 22 | 2345E | 2346 | 2353D | N27 | E43 | SF | C3.3 | 5555 |
| 23 | 0011E | 0012 | 0017D | N25 | E40 | SF | C3.1 | 5555 |
| 23 | 0039E | 0100 | 0116D | N28 | E41 | SF | C3.8 | 5555 |
| 23 | 0216E | 0218 | 0224D | N25 | E43 | SF | C3.8 | 5555 |
| 23 | 0303 | 0306 | 0310 | | | | C2.7 | |
| 23 | 0326 | 0332 | 0337 | | | | C3.9 | |
| 23 | 0523E | 0535 | 0550D | N24 | E71 | SF | C3.7 | 5565 |
| 23 | 0859E | 0904 | 0924D | N28 | E43 | SN | C4.1 | 5555 |
| 23 | 1727E | 1754 | 1850D | N28 | E33 | SF | C3.8 | 5555 |
| 23 | 2357E | 2358 | 0002D | S20 | W32 | SF | C2.2 | 5542 |
| 24 | 0050E | 0051 | 0055D | S18 | W38 | SF | C2.4 | 5542 |
| 24 | 0226E | 0230 | 0246D | N22 | E55 | SF | C3.0 | 5565 |
| 24 | 0320E | 0328 | 0347D | N26 | E29 | SF | M2.4 | 5555 |
| 24 | 0516E | 0522 | 0531D | N22 | E54 | SF | C2.1 | 5565 |
| 24 | 0544E | 0602 | 0622D | N22 | E53 | SF | C1.9 | 5565 |
| 24 | 1225 | 1229 | 1233 | | | | C3.0 | |
| 24 | 1344E | 1356 | 1418D | N27 | E24 | SF | C4.1 | 5555 |
| 24 | 1603E | 1605 | 1619D | N25 | E21 | SF | C7.6 | 5555 |
| 24 | 1821 | 1825 | 1830 | | | | C2.0 | |
| 24 | 1852E | 1855 | 1916D | N27 | E20 | SF | C7.0 | 5555 |
| 24 | 2219E | 2222 | 2245D | S20 | W50 | SF | C3.6 | 5542 |
| 25 | 0347E | 0350 | 0410D | N27 | E13 | SN | M1.1 | 5555 |
| 25 | 0541E | 0541 | 0549D | N26 | E13 | SF | C2.7 | 5555 |
| 25 | 0817E | 0819 | 0844D | N27 | E10 | SF | C1.5 | 5555 |
| 25 | 0827 | 0841 | 0849 | | | | C2.1 | |
| 25 | 0943E | 0944 | 0957D | N28 | E11 | SF | C1.8 | 5555 |
| 25 | 1038 | 1041 | 1051 | | | | C1.4 | |
| 25 | 1809E | 1810 | 1820D | S21 | E24 | SF | C1.9 | 5561 |
| 26 | 0138E | 0141 | 0151D | S16 | E30 | SF | C1.5 | 5563 |
| 26 | 0358E | 0358 | 0407D | N26 | E02 | SF | C2.6 | 5555 |
| 26 | 0958 | 1007 | 1024 | | | | C1.9 | |

GOES SOLAR X-RAY FLARES
 Preliminary Listing

123
 Jun 89

June 1989

| Day | Start (UT) | Max (UT) | End (UT) | Lat | CMD | Imp Opt | Xray | NOAA/USAF Region |
|-----|------------|----------|----------|-----|-----|---------|------|------------------|
| 26 | 1049E | 1054 | 1109D | N20 | E34 | SF | C2.5 | 5569 |
| 26 | 1410E | 1410 | 1416D | S20 | E12 | SF | C2.4 | 5561 |
| 26 | 1541 | 1549 | 1620 | N18 | E29 | 1N | M1.9 | 5569 |
| 26 | 1837 | 1857 | 1909 | | | | C3.3 | |
| 26 | 1950 | 1950U | 2003D | N19 | E29 | SF | C4.1 | 5569 |
| 26 | 2058E | 2108 | 2153D | N21 | E27 | 2B | C8.6 | 5569 |
| 26 | 2243E | 2315 | 2327D | N20 | E28 | SF | C4.9 | 5569 |
| 27 | 0009E | 0010 | 0032D | N21 | E26 | SN | C5.7 | 5569 |
| 27 | 0204E | 0207 | 0221D | N22 | W71 | SF | C4.9 | 5544 |
| 27 | 0252 | 0258 | 0305 | | | | C4.9 | |
| 27 | 0554E | 0556 | 0559D | N06 | E09 | SF | C2.4 | 5558 |
| 27 | 0613E | 0614 | 0618D | N19 | E25 | SF | C3.1 | 5569 |
| 27 | 0717E | 0718 | 0725D | N18 | E23 | SF | C2.0 | 5569 |
| 27 | 0725E | 0804 | 0958D | N21 | E19 | SF | C2.5 | 5569 |
| 27 | 1203 | 1217 | 1314D | N21 | E21 | SF | C3.6 | 5569 |
| 27 | 1755E | 1833 | 1915D | N20 | E16 | SN | C5.0 | 5569 |
| 27 | 2326E | 2333 | 0036D | N27 | W20 | SF | C2.1 | 5555 |
| 28 | 0826E | 0833 | 0917D | N27 | W26 | SF | C4.7 | 5555 |
| 28 | 1050 | 1053 | 1056 | | | | C1.7 | |

| Day | Start (UT) | Max (UT) | End (UT) | Lat | CMD | Imp Opt | Xray | NOAA/USAF Region |
|-----|------------|----------|----------|-----|-----|---------|------|------------------|
| 28 | 1109 | 1113 | 1118 | | | | | C1.8 |
| 28 | 1129 | 1132 | 1135 | | | | | C1.7 |
| 28 | 1302E | 1302 | 1353D | N10 | W09 | SN | C8.4 | 5558 |
| 28 | 1323 | 1327 | 1349D | N08 | W09 | SF | C2.7 | 5558 |
| 28 | 1738E | 1739 | 1744D | S19 | W43 | SF | C1.6 | 5552 |
| 28 | 1743E | 1747 | 1813D | N27 | W29 | SF | C2.6 | 5555 |
| 28 | 1808E | 1818 | 1913D | N20 | E03 | 1N | M2.4 | 5569 |
| 29 | 0254E | 0315 | 0510D | N28 | W28 | 1N | C7.3 | 5555 |
| 29 | 2010E | 2021 | 2039D | S18 | W31 | SF | C2.7 | 5561 |
| 29 | 2108 | 2118U | 2350 | N28 | W44 | 2B | M3.7 | 5555 |
| 30 | 0600 | 0616 | 0923 | S14 | E90 | | M3.6 | 5572 |
| 30 | 1113E | 1120 | 1146D | N08 | W36 | 1F | C4.8 | 5558 |
| 30 | 1302E | 1335 | 1348D | N20 | W23 | SF | C6.2 | 5569 |
| 30 | 1403E | 1428 | 1439D | N18 | W23 | SF | C6.5 | 5569 |
| 30 | 1451E | 1501 | 1530D | N18 | W23 | SN | M2.5 | 5569 |
| 30 | 1623E | 1643 | 1657D | N21 | W22 | SN | C3.3 | 5569 |
| 30 | 1719E | 1722 | 1734D | N18 | W24 | SF | C3.9 | 5569 |
| 30 | 1736E | 1747 | 1811D | N19 | W24 | SN | M2.1 | 5569 |
| 30 | 1830E | 1840 | 1857D | N20 | W25 | SN | C3.7 | 5569 |

Preliminary GOES Satellite Data
Daily Average X-ray Background
July 1988 - June 1989

| Day | 1988 | | | | | | 1989 | | | | | |
|-----|------|------|------|------|------|------|------|------|------|------|------|------|
| | Jul | Aug | Sep | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun |
| 1 | B8.4 | B9.4 | B6.9 | C1.0 | B5.7 | B4.6 | C1.7 | C1.2 | C1.3 | B9.2 | C1.0 | B8.2 |
| 2 | B7.1 | B9.8 | B6.5 | C1.2 | B6.1 | B4.7 | C2.1 | C1.2 | C1.3 | C1.0 | C1.0 | C1.5 |
| 3 | B9.7 | C1.1 | B6.9 | C1.3 | B5.2 | B4.4 | C2.2 | C1.6 | B9.8 | C1.1 | B9.1 | C1.4 |
| 4 | B6.3 | B8.6 | B6.7 | C1.0 | B5.0 | B4.5 | C2.0 | C2.0 | B7.0 | C1.0 | C1.6 | C1.6 |
| 5 | B6.4 | B8.3 | B6.4 | B8.7 | B4.6 | B5.7 | C1.9 | C1.6 | C1.3 | C1.0 | C1.2 | C1.5 |
| 6 | B6.5 | B7.9 | B6.1 | C1.0 | B5.8 | B6.2 | C2.4 | C1.9 | C2.7 | B8.6 | C1.1 | C1.9 |
| 7 | B6.8 | B8.2 | B6.9 | B7.4 | B5.5 | B6.6 | C4.7 | C1.9 | C2.5 | C1.0 | C1.4 | C1.9 |
| 8 | B7.0 | C1.1 | B5.5 | B5.3 | B5.5 | B7.4 | C4.6 | C2.1 | C1.9 | C1.3 | C1.3 | C3.0 |
| 9 | B7.7 | C1.0 | B4.8 | B5.0 | B9.2 | B7.8 | C3.4 | C2.2 | C2.1 | B9.8 | C1.3 | C3.0 |
| 10 | B9.1 | C1.0 | B3.2 | B4.7 | B9.8 | C1.0 | C2.5 | C1.9 | C2.5 | B8.1 | C1.3 | C2.5 |
| 11 | B7.7 | B6.7 | B2.7 | B4.9 | B9.8 | C1.3 | C3.1 | C1.3 | C2.8 | C2.1 | C1.0 | C2.1 |
| 12 | B4.9 | B5.1 | B2.8 | B5.4 | B6.3 | C1.2 | C2.3 | C1.1 | C2.3 | C1.1 | C1.0 | C2.0 |
| 13 | B5.3 | B3.9 | B2.4 | B5.4 | B8.9 | C1.1 | C5.0 | C1.3 | C3.0 | C1.2 | B9.9 | C2.3 |
| 14 | B5.0 | B3.1 | B2.3 | B4.7 | C1.3 | C1.4 | C3.8 | C2.0 | C2.4 | C1.2 | B9.5 | C2.7 |
| 15 | B4.7 | B3.2 | B2.6 | B5.9 | B7.9 | C2.1 | C2.9 | C1.5 | C2.1 | C1.1 | B9.0 | C3.3 |
| 16 | B5.5 | B3.0 | B3.0 | B7.8 | C1.4 | C1.7 | C3.1 | C1.7 | C2.5 | C1.1 | B7.8 | C4.1 |
| 17 | B4.8 | B3.2 | B3.6 | C1.2 | C1.0 | C2.0 | C2.1 | C1.4 | C2.3 | C1.4 | B7.5 | C2.7 |
| 18 | B6.7 | B2.8 | B5.3 | B8.0 | B8.1 | C1.3 | C2.8 | C1.3 | C2.1 | C1.1 | B7.2 | C2.5 |
| 19 | B9.2 | B2.7 | B4.8 | B8.3 | B8.4 | C1.9 | C2.0 | C1.5 | C2.6 | C1.0 | B7.4 | C2.5 |
| 20 | B4.5 | B2.7 | B6.9 | B6.8 | B6.6 | C2.2 | C2.3 | C1.4 | C2.3 | B9.5 | C1.3 | C2.3 |
| 21 | B6.5 | B2.8 | B7.2 | B7.3 | C1.1 | C2.3 | C2.7 | C1.7 | * | B9.0 | C1.3 | C3.4 |
| 22 | B7.2 | B2.7 | C1.0 | B8.2 | B8.3 | C1.8 | C2.1 | C2.2 | C1.8 | C1.2 | C1.7 | C2.0 |
| 23 | B6.1 | B7.4 | B8.8 | B8.0 | B5.1 | C2.3 | C1.9 | C1.5 | C1.6 | C1.4 | C1.9 | C1.7 |
| 24 | B6.7 | B7.7 | B8.1 | B6.6 | B5.3 | C2.1 | C1.8 | C1.4 | C1.1 | C1.4 | C1.9 | C1.1 |
| 25 | B7.7 | B7.3 | B8.5 | B6.0 | B5.7 | C1.5 | C1.4 | C1.5 | C1.0 | C1.0 | C1.6 | B8.3 |
| 26 | B8.0 | B7.4 | B6.2 | B5.3 | B7.2 | C1.3 | C1.3 | C1.1 | B8.9 | B9.4 | C1.2 | B9.8 |
| 27 | B8.9 | B8.1 | B7.3 | B6.7 | B7.5 | C1.9 | C1.3 | B9.5 | B9.9 | B7.4 | B7.5 | C1.0 |
| 28 | B9.4 | B7.3 | B6.0 | B7.3 | B4.2 | C1.4 | C1.1 | C1.0 | C1.1 | B7.6 | B7.9 | C1.1 |
| 29 | B9.9 | B9.2 | B6.0 | B8.4 | B4.3 | B8.7 | C1.1 | | C1.0 | C1.0 | B9.0 | C1.2 |
| 30 | B7.8 | B9.4 | B8.4 | B8.0 | B4.1 | C1.0 | C8.9 | | B8.8 | B8.4 | B9.2 | C1.1 |
| 31 | B9.4 | B8.9 | | B6.7 | | | C1.0 | | B9.6 | | B9.7 | |

MASS EJECTIONS FROM THE SUN

JUNE 1989

| Site | Mo | Day | — Observed UT — | | | Location | | Freq or Wavelength | Kind of Event |
|------|-----|-----|-----------------|--------|----------|----------|-----------|--------------------|----------------|
| | | | Start | Max | End | RA* | R/Ro | | |
| KHAR | Jun | 02 | 0716 | E 0716 | U 0740 | 254 | 0.95 | H-alpha | S |
| KHAR | Jun | 02 | 0716 | E 0750 | 0850 D | 114 | 1.00 | H-alpha | SP |
| KHAR | Jun | 02 | 0813 | 0900 | 1000 D | 118 | 0.88 | H-alpha | SP |
| KHAR | Jun | 02 | 0833 | E | 0854 D | 119 | 0.95 | H-alpha | S |
| KHAR | Jun | 02 | 0910 | E 0925 | U 0932 | 116 | 1.00 | H-alpha | S |
| WEIS | Jun | 02 | 1601.0 | | 1619.0 | | | Meter | IV Decimeter |
| SVTO | Jun | 02 | 1602.0 | | 1606.0 | | | Meter | II |
| WEIS | Jun | 02 | 1602.2 | | 1611.7 | | | 240- 36 MHz | II Herringbone |
| SGMR | Jun | 02 | 1603.0 | | 1612.0 | | | Meter | II |
| KHAR | Jun | 03 | 0745 | E | 0850 D | 290 | 1.00 | H-alpha | S |
| KHAR | Jun | 03 | 0830 | E 0850 | U 0858 D | 254 | 1.00 | H-alpha | SP |
| WEIS | Jun | 03 | 1219.9 | | 1221.2 | | | Meter | II Herringbone |
| WEIS | Jun | 03 | 1321 | | 1333 | | | 1000-180 MHz | IV Decimeter |
| WEIS | Jun | 03 | 1328.2 | | 1330.7 | | | 150- 50 MHz | II Herringbone |
| SGMR | Jun | 03 | 1328.0 | | 1331.0 | | | Meter | II |
| SVTO | Jun | 03 | 1328.0 | | 1331.0 | | | Meter | II |
| KHAR | Jun | 04 | 1040 | E 1100 | 1136 D | 012 | 1.00 | H-alpha | SP |
| KHAR | Jun | 04 | 1110 | E | 1127 | 247 | 0.91 | H-alpha | S |
| KHAR | Jun | 07 | 0650 | E 0700 | 0730 | 102-097 | 0.59-0.54 | H-alpha | SP |
| KHAR | Jun | 07 | 0855 | | 0944 D | 073 | 1.00 | H-alpha | S |
| KHAR | Jun | 07 | 0954 | E | 1015 D | 115 | 1.00 | H-alpha | S |
| KHAR | Jun | 07 | 0954 | E | 1030 D | 111 | 0.53 | H-alpha | SP |
| KHAR | Jun | 08 | 0845 | E | 0850 D | 096 | 1.00 | H-alpha | S |
| KHAR | Jun | 08 | 1057 | | 1124 D | 072 | 1.00 | H-alpha | S |
| PALE | Jun | 09 | 0029.0 | | 0034.0 | | | Meter | II |
| LEAR | Jun | 09 | 0029.0 | | 0035.0 | | | Meter | II |
| LEAR | Jun | 09 | 0041.0 | | 0741.0 | | | Meter | IV |
| KHAR | Jun | 10 | 0618 | E 0625 | U 0810 D | 110 | 1.00 | H-alpha | SP |
| KHAR | Jun | 10 | 0903 | | 0925 D | 110 | 1.00 | H-alpha | S |
| KHAR | Jun | 10 | 0940 | | 1003 | 110 | 1.00 | H-alpha | S |
| KHAR | Jun | 10 | 1010 | 1015 | U 1035 | 110 | 1.00 | H-alpha | S |
| KHAR | Jun | 13 | 0835 | | 0845 D | 065 | 0.63 | H-alpha | S |
| KHAR | Jun | 13 | 1033 | | 1100 D | 065 | 0.63 | H-alpha | S |
| SVTO | Jun | 14 | 1352.0 | | 1401.0 | | | Meter | IV |
| SGMR | Jun | 14 | 1352.0 | | 1406.0 | | | Meter | IV |
| WEIS | Jun | 14 | 1354.5 | | 1406.0 | | | 50- 30 MHz | II |
| SVTO | Jun | 14 | 1602.2 | | 1611.7 | | | Meter | II Herringbone |
| WEIS | Jun | 14 | 1637.9 | | 1645.3 | | | 70- 30 MHz | II Herringbone |
| PALE | Jun | 15 | 1914.0 | | 1927.0 | | | Meter | II |
| PALE | Jun | 15 | 1914.0 | | 2658.0 | | | Meter | IV |
| SVTO | Jun | 16 | 0744.0 | | 0751.0 | | | Meter | II |
| LEAR | Jun | 16 | 0747.0 | | 0751.0 | | | Meter | II |
| WEIS | Jun | 16 | 1702.6 | | 1714.7 | | | 150- 30 MHz | II Herringbone |
| SGMR | Jun | 16 | 1705.0 | | 2400.0 | | | Meter | II |
| PALE | Jun | 16 | 1707.0 | | 1709.0 | | | Meter | II |
| SVTO | Jun | 17 | 1604.0 | | 1607.0 | | | Meter | II |
| KHAR | Jun | 18 | 1032 | | 1040 | 294 | 0.61 | H-alpha | S |
| KHAR | Jun | 18 | 1048 | E | 1100 D | 066 | 0.73 | H-alpha | S |
| SGMR | Jun | 18 | 1450.0 | | 1513.0 | | | Meter | II |
| SVTO | Jun | 18 | 1451.0 | | 1457.0 | | | Meter | II |
| WEIS | Jun | 19 | 0747.7 | | 0750.0 | | | 520-200 MHz | II |
| SVTO | Jun | 20 | 1445.0 | | 1450.0 | | | Meter | IV |
| VORO | Jun | 20 | 2222 | 2303 | U 2427 D | 290 | 1 | H-alpha | S |
| SVTO | Jun | 21 | 1414.0 | | 1415.0 | | | Meter | II |
| WROC | Jun | 23 | 0900 | | 1043 | 136 | 0.3 | H-alpha | Q |

126
Jun 89

MASS EJECTIONS FROM THE SUN
JUNE 1989

| Site | Mo | Day | — Observed UT — | | | Location | | Freq or Wavelength | Kind of Event | |
|------|-----|-----|-----------------|------|--------|----------|------|--------------------|----------------|----|
| | | | Start | Max | End | RA* | R/Ro | | | |
| SGMR | Jun | 24 | 1925.0 | | 1929.0 | | | Meter | II | |
| SGMR | Jun | 24 | 1934.0 | | 2053.0 | | | Meter | IV | |
| KHAR | Jun | 25 | 0803 | E | 0815 | D | 025 | 0.50 | H-alpha | S |
| WEIS | Jun | 26 | 1548.9 | | 1555.2 | | | 530-210 MHz | II | |
| ABST | Jun | 28 | 0440 | 0451 | U 0507 | D | 290 | 1.00 | H-alpha | SP |
| SGMR | Jun | 28 | 1259.0 | | 1305.0 | | | Meter | II | |
| SVTO | Jun | 28 | 1259.0 | | 1306.0 | | | Meter | II | |
| PALE | Jun | 29 | 2103.0 | | 2204.0 | | | Meter | IV | |
| SGMR | Jun | 29 | 2107.0 | | 2121.0 | | | Meter | IV | |
| ABST | Jun | 30 | 0605 | 0613 | U 0641 | D | 115 | 1.00 | H-alpha | SP |
| SVTO | Jun | 30 | 0718.0 | | 0724.0 | | | Meter | II | |
| WEIS | Jun | 30 | 0719.1 | | 0722.6 | | | 86- 32 MHz | II Herringbone | |

QUALIFIERS ON START, MAX, AND END TIMES

D = event ended after tabulated time
E = event began before tabulated time
U = uncertain time

TYPE OF EVENT

A = eruptive active region prominence
CB = coronal cloud bubble
D = coronal depletions
E = coronal enhancement
EL = coronal expanding loop
II = Type II radio burst
IVm = moving Type IV radio burst
Q = eruptive quiescent prominence
R = coronal ray streamer
S = flare-surge if there is a known flare association
SP = flare-spray if there is a known flare association
* = movement may be caused by ionospheric refraction

REPORTING STATIONS

ABST = Abastumani
KHAR = Kharkov
LEAR = Learmonth
PALE = Palehua
SGMR = Sagamore Hill
SVTO = San Vito
VORO = Voroshilov
WEIS = Weissenau
WROC = Wroclaw

ACTIVE PROMINENCES AND FILAMENTS

127
Jun 89

JUNE 1989

| Day | Event Type | Start (UT) | End (UT) | Lat | CMD | CMP Mo | Day | Imp | Extent | Blue Shift (.1 A) | Red Shift (.1 A) | Obs Type | NOAA/USAF Sta | Reg# | Remarks |
|-----|------------|------------|----------|-----|-----|--------|------|-----|--------|-------------------|------------------|----------|---------------|------|------------------|
| 01 | APR | 0051E | 0133D | N61 | E90 | 06 | 9.0 | 1 | | | | C | VORO | | |
| 01 | ASR | 0111E | 0922D | S18 | W90 | 05 | 25.3 | | | 9 | 9 | E | LEAR | | |
| 01 | BSL | 0125 | 0131D | N23 | W90 | 05 | 25.2 | 1 | | | | C | VORO | | |
| 01 | AFS | 0230E | 0922D | S19 | W08 | 05 | 31.5 | | 02 | 9 | 9 | E | LEAR | 5511 | |
| 01 | DSD | 0235E | 0922D | S21 | E77 | 06 | 7.0 | | 08 | 9 | 9 | E | LEAR | 5517 | Flare Associated |
| 01 | ASR | 0400E | 0420D | S22 | E80 | 06 | 7.3 | | | 9 | 9 | E | LEAR | 5517 | |
| 01 | BSL | 0406 | 0430D | S18 | E90 | 06 | 8.0 | 1 | | | | C | ABST | | |
| 01 | AFS | 0406E | 0922D | S15 | W56 | 05 | 28.0 | | 02 | 9 | 9 | E | LEAR | 5510 | |
| 01 | BSL | 0507E | 0628D | N44 | E90 | 06 | 8.6 | 1 | | | | C | ABST | | |
| 01 | BSL | 0534E | 0654D | N65 | E90 | 06 | 9.3 | 1 | | | | C | ABST | | |
| 01 | BSL | 0700E | 0711D | N35 | E90 | 06 | 8.5 | 1- | | | | C | CATA | | |
| 01 | AFS | 0703E | 0703D | N14 | E37 | 06 | 4.1 | | 02 | 7 | 9 | E | SVTO | 5516 | |
| 01 | ADF | 0707E | 0845D | S13 | E75 | 06 | 6.9 | | 08 | 9 | 9 | E | SVTO | 5517 | |
| 01 | AFS | 0715E | 1615D | S21 | W10 | 05 | 31.5 | | 02 | 8 | 8 | E | SVTO | 5511 | |
| 01 | ADF | 0720E | 1615D | N17 | W23 | 05 | 30.6 | 1 | 04 | 9 | 9 | E | SVTO | 5506 | |
| 01 | AFS | 0757E | 1615D | N17 | W56 | 05 | 28.2 | | 03 | 9 | 9 | E | SVTO | 5510 | |
| 01 | BSL | 0758E | 0805 | S85 | W90 | 05 | 24.0 | 1- | | | | C | CATA | | |
| 01 | SDF | 0845E | 0845D | S13 | E75 | 06 | 7.0 | 2 | 08 | 0 | 0 | E | SVTO | 5517 | |
| 01 | SDF | 0845E | 0845D | S13 | E75 | 06 | 7.0 | 2 | 08 | 0 | 0 | E | SVTO | 5517 | Flare Associated |
| 01 | DSD | 0845E | 1024D | S18 | E71 | 06 | 6.8 | | 10 | 9 | 9 | E | SVTO | 5517 | |
| 01 | BSL | 0846E | 0846D | S25 | E90 | 06 | 8.3 | 1 | | | | C | CATA | | |
| 01 | BSL | 0910E | 0925 | S25 | E90 | 06 | 8.3 | 1 | | | | C | CATA | | |
| 01 | BSL | 1000 | 1014D | N37 | E90 | 06 | 8.7 | 1- | | | | C | CATA | | |
| 01 | ASR | 1013E | 1615D | S23 | W90 | 05 | 25.6 | | | 9 | 9 | E | SVTO | | |
| 01 | SSB | 1036 | | 359 | W00 | 05 | 28.1 | | | 0 | 0 | E | SVTO | | 387 W17 |
| 01 | AFS | 1045E | 1615D | S20 | E36 | 06 | 4.2 | | 02 | 9 | 9 | E | SVTO | | |
| 01 | SDF | 1048E | 0630D | N44 | W28 | 05 | 30.2 | | | | | C | CATA | | |
| 01 | DSD | 1251E | 0004D | S17 | E70 | 06 | 6.8 | | 09 | 9 | 9 | E | HOLL | 5517 | |
| 01 | AFS | 1255E | 0004D | S21 | W14 | 05 | 31.5 | | 03 | 9 | 9 | E | HOLL | 5511 | |
| 01 | AFS | 1257E | 0004D | S16 | W59 | 05 | 28.2 | | 02 | 9 | 9 | E | HOLL | 5510 | |
| 01 | ASR | 1258E | 0004D | S22 | W90 | 05 | 25.7 | | | 9 | 9 | E | HOLL | | |
| 01 | SSB | 1300 | | 388 | W19 | 05 | 25.9 | | | 0 | 0 | E | HOLL | | 418 W50 |
| 01 | AFS | 1443E | 0004D | N31 | E11 | 06 | 2.5 | | 02 | 9 | 9 | E | HOLL | | |
| 01 | AFS | 1535E | 1615D | S15 | E02 | 06 | 1.8 | | 02 | 8 | 8 | E | SVTO | 5513 | |
| 01 | DSD | 1539E | 1615D | S14 | E70 | 06 | 6.9 | | 06 | 9 | 9 | E | SVTO | 5517 | |
| 01 | AFS | 1620E | 0004D | S22 | W24 | 05 | 30.9 | | 02 | 8 | 8 | E | HOLL | 5515 | |
| 01 | ADF | 1620E | 0004D | S23 | W22 | 05 | 31.0 | | 08 | 9 | 9 | E | HOLL | 5515 | |
| 01 | AFS | 1624E | 0004D | S22 | E33 | 06 | 4.2 | | 02 | 9 | 8 | E | HOLL | | |
| 01 | DSD | 1714E | 2135D | S17 | E66 | 06 | 6.7 | | 08 | 9 | 9 | E | RAMY | 5517 | |
| 01 | AFS | 1725E | 2135D | S17 | W43 | 05 | 29.5 | | 02 | 9 | 9 | E | RAMY | 5505 | |
| 01 | DSD | 1739E | 2135D | N23 | W32 | 05 | 30.4 | | 03 | 9 | 9 | E | RAMY | 5506 | |
| 01 | AFS | 1745E | 2135D | S17 | W62 | 05 | 28.1 | | 02 | 9 | 9 | E | RAMY | 5510 | |
| 01 | AFS | 1747E | 2135D | S20 | W15 | 05 | 31.6 | | 03 | 9 | 9 | E | RAMY | 5511 | |
| 01 | AFS | 1748E | 0004D | S17 | W44 | 05 | 29.5 | | 03 | 8 | 7 | E | HOLL | 5505 | |
| 01 | AFS | 1753E | 2135D | N32 | E09 | 06 | 2.4 | | 01 | 8 | 6 | E | RAMY | 5518 | |
| 01 | ASR | 1755E | 2135D | S21 | W76 | 05 | 27.0 | | | 9 | 9 | E | RAMY | | |
| 02 | AFS | 0000E | 0043D | S19 | W22 | 05 | 31.3 | | 03 | 9 | 9 | E | PALE | 5511 | |
| 02 | DSD | 0000E | 0043D | S21 | E63 | 06 | 6.8 | | 07 | 9 | 9 | E | PALE | 5517 | |
| 02 | DSD | 0002E | 0927D | S19 | E62 | 06 | 6.7 | | 08 | 9 | 9 | E | LEAR | 5517 | |
| 02 | AFS | 0006E | 0927D | S20 | W28 | 05 | 31.0 | | 02 | 9 | 8 | E | LEAR | 5515 | |
| 02 | ASR | 0355E | 0927D | S28 | E90 | 06 | 9.2 | | | 9 | 9 | E | LEAR | | |
| 02 | BSL | 0457E | 0553D | S18 | E90 | 06 | 9.0 | 1 | | | | C | ABST | | |
| 02 | BSL | 0553E | 0634D | N64 | E90 | 06 | 10.3 | 1 | | | | C | ABST | | |
| 02 | BSL | 0553E | 0634D | S50 | E90 | 06 | 9.9 | 1 | | | | C | ABST | | |
| 02 | BSL | 0553E | 0730D | S26 | E90 | 06 | 9.2 | 1 | | | | C | ABST | | |
| 02 | BSL | 0635E | 0645 | S14 | W90 | 05 | 26.6 | 1 | | | | C | CATA | | |
| 02 | BSL | 0656 | 0730D | S18 | E90 | 06 | 9.1 | 1 | | | | C | ABST | | |
| 02 | BSL | 0701 | 0705 | N37 | E90 | 06 | 9.5 | 1- | | | | C | CATA | | |
| 02 | BSL | 0705 | 0715 | N42 | E90 | 06 | 9.7 | 1- | | | | C | CATA | | |
| 02 | DSD | 0716E | 0740D | S15 | W70 | 05 | 28.1 | 1 | | | | V | KHAR | | |
| 02 | APR | 0716E | 0850 | S25 | E90 | 06 | 9.3 | 2 | | | | V | KHAR | | |
| 02 | BSL | 0738E | 0746D | S26 | E90 | 06 | 9.3 | 1- | | | | C | CATA | | |
| 02 | BSL | 0740E | 0807 | S15 | E90 | 06 | 9.1 | 1 | | | | C | CATA | | |
| 02 | BSL | 0752 | 0812 | S27 | E90 | 06 | 9.3 | 1- | | | | C | CATA | | |
| 02 | DSD | 0823 | 1000D | S17 | E60 | 06 | 6.9 | 2 | | | | V | KHAR | | |
| 02 | DSD | 0833E | 0854D | S17 | E70 | 06 | 7.7 | 1 | | | | V | KHAR | | |
| 02 | EPL | 0836E | 0955D | S23 | E90 | 06 | 9.3 | 2 | | | | C | CATA | | |
| 02 | APR | 0900E | 1000D | S21 | E90 | 06 | 9.3 | 2 | | | | V | KHAR | | |
| 02 | BSL | 0910E | 0932D | S26 | E90 | 06 | 9.4 | 1 | | | | V | KHAR | | |

ACTIVE PROMINENCES AND FILAMENTS

JUNE 1989

| Day | Event Type | Start (UT) | End (UT) | Lat | CMD | CMP Mo | Day | Imp | Extent | Blue Shift (.1 A) | Red Shift (.1 A) | Obs Type | NOAA/USAF Sta | Reg# | Remarks |
|-----|------------|------------|----------|-----|-----|--------|------|-----|--------|-------------------|------------------|----------|---------------|------|------------------|
| 02 | EPL | 1020E | 1100D | S25 | E90 | 06 | 9.4 | 2 | | | | C | CATA | | |
| 02 | DSD | 1031E | 1031D | S17 | E56 | 06 | 6.7 | 1- | | | | C | CATA | | |
| 02 | BSL | 1056E | 1100D | S28 | E90 | 06 | 9.5 | 1- | | | | C | CATA | | |
| 02 | ASR | 1057E | 1940D | S23 | E90 | 06 | 9.4 | | | 9 | 9 | E | RAMY | | |
| 02 | AFS | 1102E | 2020D | S20 | E23 | 06 | 4.2 | | 03 | 9 | 9 | E | RAMY | 5519 | |
| 02 | DSD | 1349E | 1352D | S18 | E57 | 06 | 6.9 | | 05 | 9 | 9 | E | HOLL | 5517 | Flare Associated |
| 02 | ASR | 1356E | 0149D | N30 | W90 | 05 | 26.6 | | | 9 | 9 | E | HOLL | | |
| 02 | ASR | 1402E | 0149D | S14 | E90 | 06 | 9.4 | | | 9 | 9 | E | HOLL | | |
| 02 | ASR | 1402E | 0149D | S26 | E90 | 06 | 9.6 | | | 9 | 9 | E | HOLL | | |
| 02 | AFS | 1544E | 0149D | S21 | E21 | 06 | 4.3 | | 02 | 9 | 9 | E | HOLL | 5519 | |
| 02 | SSB | 1553 | | 360 | W06 | 05 | 29.3 | | | 0 | 0 | E | HOLL | | 401 W47 418 W64 |
| 02 | LPS | 1624E | 1850D | S19 | E58 | 06 | 7.1 | | | 9 | 9 | E | HOLL | 5517 | Flare Associated |
| 02 | LPS | 1628E | 1746 | S21 | E57 | 06 | 7.0 | | | 9 | 9 | E | PALE | 5517 | Flare Associated |
| 02 | AFS | 1758E | 0428D | S18 | W30 | 05 | 31.5 | | 05 | 9 | 9 | E | PALE | 5511 | |
| 02 | ADF | 1758E | 0428D | S21 | E18 | 06 | 4.1 | | 02 | 9 | 9 | E | PALE | 5519 | |
| 02 | DSD | 1758E | 0428D | S21 | E58 | 06 | 7.2 | | 06 | 9 | 9 | E | PALE | 5517 | Flare Associated |
| 02 | AFS | 1758E | 0428D | S22 | E18 | 06 | 4.1 | | 02 | 9 | 9 | E | PALE | 5519 | |
| 02 | ADF | 1758E | 0428D | S22 | W12 | 06 | 1.8 | | 07 | 9 | 7 | E | PALE | 5513 | |
| 02 | ASR | 1758E | 0428D | S30 | E90 | 06 | 9.8 | | | 9 | 9 | E | PALE | | |
| 02 | ASR | 2004E | 0149D | N20 | W90 | 05 | 27.0 | | | 9 | 9 | E | HOLL | | |
| 02 | ADF | 2105E | 0149D | N32 | W50 | 05 | 30.0 | 1 | 09 | 9 | 9 | E | HOLL | 5507 | |
| 02 | AFS | 2345E | 0926D | S21 | E15 | 06 | 4.1 | | 03 | 9 | 9 | E | LEAR | 5519 | |
| 03 | ASR | 0025E | 0926D | S28 | E90 | 06 | 10.0 | | | 9 | 9 | E | LEAR | 5520 | |
| 03 | ASR | 0040E | 0926D | S13 | W90 | 05 | 27.3 | | | 9 | 9 | E | LEAR | 5510 | |
| 03 | ASR | 0058E | 0926D | N32 | W90 | 05 | 27.0 | | | 9 | 9 | E | LEAR | | |
| 03 | SDF | 0149E | 0123D | S36 | E41 | 06 | 6.4 | | 24 | 0 | 0 | E | HOLL | | |
| 03 | ASR | 0305E | 0926D | N25 | E90 | 06 | 10.1 | | | 9 | 9 | E | LEAR | | |
| 03 | BSD | 0445E | 1621D | S16 | W85 | 05 | 27.8 | | 13 | 9 | 9 | E | SVTO | 5510 | |
| 03 | ADF | 0500E | 1621D | N30 | E36 | 06 | 6.0 | 1 | 20 | 9 | 9 | E | SVTO | 5514 | |
| 03 | ADF | 0500E | 1621D | N33 | E17 | 06 | 4.5 | 1 | 35 | 9 | 9 | E | SVTO | | |
| 03 | DSD | 0522E | 0600D | N21 | E20 | 06 | 4.7 | | 02 | 9 | 9 | E | SVTO | 5514 | |
| 03 | ADF | 0533E | 1621D | N18 | W47 | 05 | 30.7 | 1 | 06 | 9 | 9 | E | SVTO | 5506 | |
| 03 | ADF | 0545E | 1621D | S24 | W22 | 06 | 1.5 | 1 | 07 | 9 | 9 | E | SVTO | 5513 | |
| 03 | BSL | 0646E | 0646D | N22 | W90 | 05 | 27.5 | 1- | | | | C | CATA | | |
| 03 | BSL | 0710E | 0723D | S17 | W90 | 05 | 27.5 | 1 | | | | C | CATA | | |
| 03 | APR | 0745E | 0845 | S25 | E90 | 06 | 10.3 | 1 | | | | V | KHAR | | |
| 03 | BSL | 0745E | 0850D | N20 | W90 | 05 | 27.5 | 1 | | | | V | KHAR | | |
| 03 | APR | 0745E | 0850D | S33 | E90 | 06 | 10.5 | 1 | | | | V | KHAR | | |
| 03 | APR | 0745E | 0858E | S18 | E90 | 06 | 10.2 | 1 | | | | V | KHAR | | |
| 03 | BSL | 0810E | 0810D | N28 | E90 | 06 | 10.4 | 1- | | | | C | CATA | | |
| 03 | BSL | 0820E | 0820D | N27 | E90 | 06 | 10.3 | 1- | | | | C | CATA | | |
| 03 | BSL | 0820E | 0820D | S13 | W90 | 05 | 27.6 | 1 | | | | C | CATA | | |
| 03 | BSL | 0820E | 0820D | S17 | W90 | 05 | 27.6 | 1 | | | | C | CATA | | |
| 03 | BSL | 0830E | 0858D | S16 | W90 | 05 | 27.6 | 2 | | | | V | KHAR | | |
| 03 | BSL | 0831E | 0854D | S15 | W90 | 05 | 27.6 | 2 | | | | C | CATA | | |
| 03 | BSL | 0854E | 0913D | S18 | W90 | 05 | 27.6 | 1 | | | | C | CATA | | |
| 03 | BSL | 0913 | 0923D | S13 | W90 | 05 | 27.7 | 1 | | | | C | CATA | | |
| 03 | AFS | 0925E | 1621D | N16 | E50 | 06 | 7.2 | | 03 | 9 | 9 | E | SVTO | 5517 | |
| 03 | BSL | 0936E | 0944 | S16 | W90 | 05 | 27.7 | 1- | | | | C | CATA | | |
| 03 | BSL | 0936E | 0945D | S13 | W90 | 05 | 27.7 | 1 | | | | C | CATA | | |
| 03 | BSL | 0955E | 1110D | S15 | W90 | 05 | 27.7 | 1 | | | | C | CATA | | |
| 03 | BSL | 1001 | 1006 | S17 | E90 | 06 | 10.2 | 1 | | | | C | CATA | | |
| 03 | BSL | 1006 | 1023 | S17 | E90 | 06 | 10.3 | 1 | | | | C | CATA | | |
| 03 | ASR | 1112E | 2042D | S16 | W78 | 05 | 28.6 | | | 9 | 9 | E | RAMY | 5510 | |
| 03 | BSL | 1120E | 1200D | S27 | E90 | 06 | 10.5 | 3 | | | | C | CATA | | |
| 03 | AFS | 1130E | 2042D | S18 | E50 | 06 | 7.3 | | 02 | 9 | 9 | E | RAMY | 5517 | |
| 03 | ASR | 1131E | 1137 | S30 | E90 | 06 | 10.5 | | | 9 | 9 | E | SVTO | 5520 | Flare Associated |
| 03 | BSL | 1135 | 1155 | S15 | W90 | 05 | 27.8 | 1 | | | | C | CATA | | |
| 03 | BSL | 1137E | 1138D | S30 | E90 | 06 | 10.6 | | | 9 | 9 | E | SVTO | 5520 | Flare Associated |
| 03 | BSL | 1140 | 1225D | S30 | E90 | 06 | 10.6 | | | 9 | 9 | E | RAMY | 5520 | Flare Associated |
| 03 | ASR | 1207 | 1221 | S30 | E90 | 06 | 10.6 | | | 9 | 9 | E | SVTO | 5520 | Flare Associated |
| 03 | ASR | 1220 | 1222D | S14 | E83 | 06 | 9.8 | | | 9 | 9 | E | SVTO | 5520 | Flare Associated |
| 03 | BSL | 1224E | 1305D | S17 | E90 | 06 | 10.3 | | | 9 | 9 | E | RAMY | 5520 | Flare Associated |
| 03 | BSL | 1224 | 1253 | S14 | E83 | 06 | 9.8 | | | 9 | 9 | E | SVTO | 5520 | Flare Associated |
| 03 | SDF | 1301E | 1340D | S40 | E25 | 06 | 5.6 | | 16 | 0 | 0 | E | RAMY | | |
| 03 | ASR | 1305 | 2042D | S17 | E90 | 06 | 10.4 | | | 9 | 9 | E | RAMY | 5521 | |
| 03 | ADF | 1732E | 0433D | N16 | E14 | 06 | 4.8 | | 06 | 9 | 9 | E | PALE | 5514 | |
| 03 | ADF | 1732E | 0433D | S19 | W52 | 05 | 30.9 | | 03 | 9 | 9 | E | PALE | 5515 | |
| 03 | DSD | 1732E | 0433D | S20 | W44 | 05 | 31.4 | | 02 | 9 | 9 | E | PALE | 5511 | |

ACTIVE PROMINENCES AND FILAMENTS

129
Jun 89

JUNE 1989

| Day | Event Type | Start (UT) | End (UT) | Lat | CMD | CMP Mo | Day | Imp | Extent | Blue Shift (.1 A) | Red Shift (.1 A) | Obs Type | Sta | NOAA/USAF Reg# | Remarks |
|-----|------------|------------|----------|-----|-----|--------|------|-----|--------|-------------------|------------------|----------|------|----------------|------------------|
| 03 | AFS | 1732E | 0433D | S21 | E42 | 06 | 6.9 | | 06 | 9 | 8 | E | PALE | 5517 | |
| 03 | DSD | 1732E | 0433D | S24 | E74 | 06 | 9.4 | | 06 | 9 | 9 | E | PALE | 5521 | |
| 03 | ADF | 1732E | 0433D | S29 | E69 | 06 | 9.1 | | 05 | 9 | 9 | E | PALE | | |
| 03 | DSD | 2354E | 0500D | S20 | E35 | 06 | 6.7 | | 02 | 9 | 9 | E | LEAR | 5517 | |
| 04 | ASR | 0113E | 0933D | S13 | W90 | 05 | 28.4 | | | 9 | 9 | E | LEAR | 5510 | |
| 04 | DSD | 0324E | 0433D | S21 | E37 | 06 | 7.0 | | 05 | 9 | 9 | E | PALE | 5517 | |
| 04 | APR | 0427E | 0702D | N65 | E90 | 06 | 12.2 | 1 | | | | C | ABST | | |
| 04 | BSL | 0505E | 0702D | N10 | W90 | 05 | 28.5 | 1 | | | | C | ABST | | |
| 04 | ADF | 0628E | 1032D | N18 | E01 | 06 | 4.3 | 1 | 04 | 9 | 9 | E | SVTO | 5514 | |
| 04 | ADF | 0628E | 1032D | N19 | E09 | 06 | 4.9 | 1 | 08 | 9 | 9 | E | SVTO | 5514 | |
| 04 | BSL | 0633E | 0640 | N22 | W90 | 05 | 28.4 | 1- | | | | C | CATA | | |
| 04 | ADF | 0635E | 1032D | N16 | E00 | 06 | 4.3 | 1 | 05 | 9 | 9 | E | SVTO | 5516 | |
| 04 | ADF | 0645E | 1032D | S23 | W52 | 05 | 31.3 | 1 | 05 | 9 | 9 | E | SVTO | 5511 | |
| 04 | BSL | 0705E | 0730D | N73 | E90 | 06 | 12.5 | 1 | | | | C | CATA | | |
| 04 | SPY | 0745E | 0815D | N30 | W68 | 05 | 30.1 | 1 | | | | P | BUCH | | |
| 04 | EPL | 0800E | 1100D | N60 | E90 | 06 | 12.2 | | | | | V | ATHN | | |
| 04 | BSL | 0801E | 0814 | N36 | W90 | 05 | 28.2 | 2 | | | | C | CATA | | |
| 04 | BSL | 0801E | 0814D | N33 | W90 | 05 | 28.3 | 1 | | | | C | CATA | | |
| 04 | EPL | 0801E | 1138D | N68 | E90 | 06 | 12.5 | 3+ | | | | C | CATA | | |
| 04 | BSD | 0805E | 1013D | N26 | W66 | 05 | 30.3 | | 14 | 9 | 9 | E | SVTO | 5507 | Flare Associated |
| 04 | BSL | 0856 | 0915 | S14 | W90 | 05 | 28.7 | 1- | | | | C | CATA | | |
| 04 | BSL | 0915 | 0937 | N72 | E90 | 06 | 12.6 | 1- | | | | C | CATA | | |
| 04 | ADF | 1021E | 1032D | N18 | E36 | 06 | 7.2 | 1 | 06 | 9 | 9 | E | SVTO | 5517 | |
| 04 | EPL | 1040E | 1136D | N68 | E90 | 06 | 12.6 | 1 | | | | V | KHAR | | |
| 04 | DSD | 1110E | 1127 | S23 | W68 | 05 | 30.3 | 1 | | | | V | KHAR | | |
| 04 | ASR | 1112E | 1458D | S18 | W81 | 05 | 29.4 | | | 9 | 9 | E | RAMY | 5505 | |
| 04 | DSD | 1120E | 1535D | S21 | W57 | 05 | 31.1 | | 02 | 9 | 9 | E | RAMY | 5511 | |
| 04 | DSD | 1125E | 1940D | S22 | W64 | 05 | 30.6 | | 02 | 9 | 9 | E | RAMY | 5515 | |
| 04 | ADF | 1130E | 2030D | S20 | E35 | 06 | 7.1 | 1 | 07 | 9 | 9 | E | RAMY | 5517 | |
| 04 | DSD | 1144E | 2106D | S19 | E70 | 06 | 9.8 | | 02 | 9 | 9 | E | RAMY | 5521 | |
| 04 | DSD | 1414E | 1542D | S16 | E25 | 06 | 6.5 | | 05 | 9 | 9 | E | RAMY | 5517 | Flare Associated |
| 04 | DSD | 1414E | 1542D | S22 | E30 | 06 | 6.9 | | 07 | 9 | 9 | E | RAMY | 5517 | Flare Associated |
| 04 | AFS | 1656E | 0130D | S18 | E35 | 06 | 7.4 | | 02 | 9 | 9 | E | HOLL | 5517 | |
| 04 | DSD | 1900E | 0436D | S16 | W58 | 05 | 31.4 | | 02 | 9 | 9 | E | PALE | 5511 | |
| 04 | ASR | 2023E | 2106D | N26 | E90 | 06 | 11.8 | | | 8 | 8 | E | RAMY | | |
| 04 | ADF | 2023E | 2106D | N34 | E65 | 06 | 10.0 | 1 | 30 | 9 | 9 | E | RAMY | 5522 | |
| 04 | SDF | 2106E | 1100D | S10 | W03 | 06 | 4.6 | | 12 | 0 | 0 | E | RAMY | | |
| 05 | BSL | 0515E | 0706D | S40 | W90 | 05 | 29.0 | 1 | | | | C | ABST | | |
| 05 | ADF | 0554E | 1507D | S21 | E57 | 06 | 9.6 | 1 | 05 | 9 | 9 | E | SVTO | 5521 | |
| 05 | ADF | 0605E | 1507D | N19 | W62 | 05 | 31.5 | 1 | 15 | 9 | 9 | E | SVTO | 5511 | |
| 05 | BSL | 0614E | 0706D | S20 | E90 | 06 | 12.1 | 1 | | | | C | ABST | | |
| 05 | ADF | 0615E | 1348D | N19 | W04 | 06 | 4.9 | 1 | 06 | 9 | 9 | E | SVTO | 5514 | |
| 05 | AFS | 0621E | 1348D | N17 | W80 | 05 | 30.3 | | 02 | 9 | 9 | E | SVTO | 5506 | |
| 05 | BSL | 0840 | 0856D | S16 | W90 | 05 | 29.6 | 1- | | | | C | CATA | | |
| 05 | ADF | 0845E | 0900D | S22 | E64 | 06 | 10.3 | 1 | | | | V | KHAR | | |
| 05 | BSL | 0851 | 0856D | N35 | W90 | 05 | 29.3 | 1- | | | | C | CATA | | |
| 05 | BSL | 0906E | 0930 | S16 | W90 | 05 | 29.6 | 1- | | | | C | CATA | | |
| 05 | AFS | 0923E | 1507D | N12 | E09 | 06 | 6.1 | | 02 | 9 | 9 | E | SVTO | | |
| 05 | BSL | 0930 | 0935 | S82 | W90 | 05 | 28.1 | 1- | | | | C | CATA | | |
| 05 | BSL | 0935 | 1003 | N30 | E90 | 06 | 12.5 | 1- | | | | C | CATA | | |
| 05 | BSL | 0939 | 1003 | S20 | W90 | 05 | 29.6 | 1- | | | | C | CATA | | |
| 05 | BSL | 1003 | 1015D | S16 | W90 | 05 | 29.7 | 1- | | | | C | CATA | | |
| 05 | AFS | 1043E | 1755D | N11 | E09 | 06 | 6.1 | | 03 | 9 | 9 | E | RAMY | | |
| 05 | ASR | 1054E | 1755D | S17 | W90 | 05 | 29.7 | | | 8 | 9 | E | RAMY | 5505 | |
| 05 | BSL | 1110E | 1110D | S15 | W90 | 05 | 29.7 | 1- | | | | C | CATA | | |
| 05 | ASR | 1157E | 1507D | S19 | W90 | 05 | 29.7 | | | 9 | 9 | E | SVTO | 5505 | |
| 05 | AFS | 1325E | 0202D | N13 | E08 | 06 | 6.2 | | 01 | 9 | 9 | E | HOLL | | |
| 05 | ASR | 1655E | 0202D | S18 | W90 | 05 | 29.9 | | | 9 | 9 | E | HOLL | 5505 | |
| 05 | AFS | 1740E | 0444D | N12 | E06 | 06 | 6.2 | | 02 | 8 | 8 | E | PALE | 5525 | |
| 05 | ADF | 1740E | 0444D | S21 | E48 | 06 | 9.4 | 1 | 06 | 9 | 9 | E | PALE | 5521 | |
| 05 | SDF | 1755E | 1127D | S33 | W03 | 06 | 5.5 | | 15 | 0 | 0 | E | RAMY | | |
| 05 | AFS | 1756E | 0250D | S20 | E19 | 06 | 7.2 | | 03 | 9 | 9 | E | PALE | 5517 | |
| 05 | DSD | 1840E | 1910D | S17 | E06 | 06 | 6.2 | | 05 | 9 | 9 | E | HOLL | 5517 | Flare Associated |
| 05 | ADF | 2155E | 0202D | S20 | E61 | 06 | 10.6 | 2 | 07 | 9 | 9 | E | HOLL | 5521 | Flare Associated |
| 05 | SSB | 2318 | | S59 | W49 | 06 | 1.0 | | | 0 | 0 | E | HOLL | | |
| 06 | ADF | 0040E | 0202D | S25 | E38 | 06 | 9.0 | 1 | 08 | 9 | 9 | E | HOLL | 5520 | |
| 06 | ADF | 0045E | 0202D | S19 | E19 | 06 | 7.5 | 1 | 11 | 9 | 9 | E | HOLL | 5517 | |

ACTIVE PROMINENCES AND FILAMENTS

JUNE 1989

| Day | Event Type | Start (UT) | End (UT) | Lat | CMD | CMP No | Day | Imp | Extent | Blue Shift (.1 A) | Red Shift (.1 A) | Obs Type | Sta | NOAA/USAF Reg# | Remarks |
|-----|------------|------------|----------|-----|-----|--------|------|-----|--------|-------------------|------------------|----------|-----------|----------------|------------------|
| 06 | BSL | 0448E | 0704D | N09 | E90 | 06 | 12.9 | 1 | | | | C | ABST | | |
| 06 | BSL | 0448E | 0704D | N20 | E90 | 06 | 13.1 | 1 | | | | C | ABST | | |
| 06 | BSL | 0804 | 0812 | S76 | W90 | 05 | 29.1 | 1- | | | | C | CATA | | |
| 06 | BSL | 0804 | 0812 | S86 | W90 | 05 | 29.0 | 1- | | | | C | CATA | | |
| 06 | BSL | 0827 | 0827D | S67 | E90 | 06 | 14.4 | 1- | | | | C | CATA | | |
| 06 | ADF | 0915E | 0948 | N50 | E26 | 06 | 8.6 | 1 | | | | V | KHAR | | |
| 06 | BSL | 0917E | 0946 | N46 | W90 | 05 | 30.0 | 1 | | | | C | CATA | | |
| 06 | ADF | 1007E | 1020 | N48 | E19 | 06 | 8.0 | 1 | | | | V | KHAR | | |
| 06 | APR | 1030 | 1118D | N25 | E90 | 06 | 13.4 | 2 | | | | V | KHAR | | |
| 06 | BSL | 1045E | 1052 | N18 | W90 | 05 | 30.7 | 1- | | | | C | CATA | | |
| 06 | ADF | 1103 | 1115 | S15 | E51 | 06 | 10.3 | 1 | | | | V | KHAR | | |
| 06 | DSD | 1147E | 1220D | S18 | E48 | 06 | 10.1 | | 12 | 9 | 9 | E | RAMY 5521 | | Flare Associated |
| 06 | ASR | 1152E | 2109D | S21 | W90 | 05 | 30.7 | | | 9 | 9 | E | RAMY 5511 | | |
| 06 | AFS | 1206E | 1915D | S18 | E09 | 06 | 7.2 | | 03 | 9 | 9 | E | RAMY 5517 | | |
| 06 | ADF | 1225E | 1919D | S20 | E37 | 06 | 9.3 | 1 | 08 | 9 | 9 | E | RAMY 5521 | | |
| 06 | ASR | 1255E | 0132D | N33 | W90 | 05 | 30.5 | | | 9 | 9 | E | HOLL | | |
| 06 | ASR | 1257E | 1335D | N36 | W90 | 05 | 30.4 | | | 9 | 9 | E | RAMY 5507 | | |
| 06 | SSB | 1335 | | S31 | W29 | 06 | 4.1 | | | 0 | 0 | E | RAMY | | 379 W77 |
| 06 | ASR | 1335E | 2109D | N20 | W90 | 05 | 30.8 | | | 9 | 9 | E | RAMY 5506 | | |
| 06 | ADF | 1420E | 2112D | S12 | E46 | 06 | 10.1 | 1 | 08 | 9 | 9 | E | RAMY 5521 | | |
| 06 | DSD | 1720E | 1820D | S19 | W01 | 06 | 6.6 | | 06 | 9 | 9 | E | RAMY 5517 | | Flare Associated |
| 06 | ADF | 1807E | 0455D | S21 | E45 | 06 | 10.2 | | 11 | 9 | 9 | E | PALE 5521 | | |
| 06 | ADF | 1807E | 0455D | S24 | E41 | 06 | 9.9 | | 12 | 9 | 9 | E | PALE 5521 | | |
| 06 | ASR | 1807E | 2257D | N24 | W90 | 05 | 30.9 | | | 9 | 9 | E | PALE 5506 | | |
| 06 | SSB | 1914 | | S35 | W36 | 06 | 4.0 | | | 0 | 0 | E | HOLL | | |
| 06 | ADF | 1915E | 0201D | S20 | E32 | 06 | 9.2 | 1 | 11 | 9 | 9 | E | HOLL 5521 | | |
| 06 | ADF | 2244E | 2246D | S21 | E54 | 06 | 11.1 | | 11 | 9 | 7 | E | PALE 5524 | | |
| 06 | DSD | 2254E | 0455D | S19 | E02 | 06 | 7.1 | | 05 | 9 | 7 | E | PALE 5517 | | |
| 07 | SDF | 0000E | 1409D | S18 | E14 | 06 | 8.1 | | 10 | 0 | 0 | E | HOLL 5517 | | |
| 07 | AFS | 0434E | 1739D | N13 | E51 | 06 | 11.0 | | 01 | 8 | 8 | E | SVTO 5526 | | |
| 07 | ASR | 0436E | 1739D | N22 | E90 | 06 | 14.1 | | | 9 | 9 | E | SVTO 5528 | | |
| 07 | ASR | 0436E | 1739D | S08 | E90 | 06 | 13.9 | | | 9 | 9 | E | SVTO | | |
| 07 | SSB | 0453 | | S29 | W00 | 06 | 14.2 | | | 0 | 0 | E | SVTO | | |
| 07 | DSD | 0500E | 0751D | S17 | E27 | 06 | 9.3 | | 02 | 9 | 9 | E | SVTO 5521 | | |
| 07 | ADF | 0500E | 1739D | S21 | E37 | 06 | 10.0 | 1 | 10 | 9 | 9 | E | SVTO 5521 | | |
| 07 | DSD | 0650E | 0730 | S06 | E35 | 06 | 9.9 | 2 | | | | V | KHAR | | |
| 07 | ADF | 0651E | 0717 | S22 | E45 | 06 | 10.7 | 1 | | | | V | KHAR | | |
| 07 | ADF | 0653E | 0755 | S23 | E27 | 06 | 9.4 | 1 | | | | V | KHAR | | |
| 07 | BSL | 0702E | 0719 | N24 | E90 | 06 | 14.2 | 1- | | | | C | CATA | | |
| 07 | APR | 0724 | 0842D | N16 | E90 | 06 | 14.1 | 1 | | | | V | KHAR | | |
| 07 | APR | 0823 | 0900 | N25 | E90 | 06 | 14.3 | 2 | | | | V | KHAR | | |
| 07 | BSL | 0855 | 0944D | N17 | E90 | 06 | 14.2 | 1 | | | | V | KHAR | | |
| 07 | BSL | 0954E | 1015D | S25 | W90 | 05 | 31.4 | 1 | | | | V | KHAR | | |
| 07 | DSD | 0954E | 1030D | S07 | E32 | 06 | 9.8 | 3 | | | | V | KHAR | | |
| 07 | EPL | 0955E | 1005D | S14 | W90 | 05 | 31.6 | | | | | V | ATHN | | |
| 07 | DSD | 1014 | 1331D | S16 | E34 | 06 | 10.0 | | 13 | 9 | 9 | E | SVTO 5521 | | Flare Associated |
| 07 | BSL | 1143E | 1152 | N19 | E90 | 06 | 14.3 | 1- | | | | C | CATA | | |
| 07 | BSL | 1143E | 1200 | N23 | E90 | 06 | 14.4 | 1- | | | | C | CATA | | |
| 07 | BSL | 1200 | 1221D | N18 | E90 | 06 | 14.3 | 1- | | | | C | CATA | | |
| 07 | BSL | 1200 | 1221D | N31 | E90 | 06 | 14.6 | 1 | | | | C | CATA | | |
| 07 | ASR | 1226E | 0201D | S09 | E90 | 06 | 14.3 | | | 9 | 9 | E | HOLL | | |
| 07 | APR | 1230E | 0201D | N16 | E90 | 06 | 14.3 | | | 9 | 9 | E | HOLL | | |
| 07 | ASR | 1230E | 0201D | N21 | E90 | 06 | 14.4 | | | 9 | 9 | E | HOLL | | |
| 07 | AFS | 1232E | 0201D | S19 | W06 | 06 | 7.1 | | 03 | 9 | 9 | E | HOLL 5517 | | |
| 07 | ASR | 1302E | 2157D | N19 | E88 | 06 | 14.2 | | | 9 | 9 | E | RAMY 5528 | | |
| 07 | AFS | 1302E | 2157D | S19 | W05 | 06 | 7.2 | | 03 | 9 | 9 | E | RAMY 5517 | | |
| 07 | DSD | 1311E | 2157D | S22 | E34 | 06 | 10.2 | | 11 | 9 | 9 | E | RAMY 5521 | | |
| 07 | ADF | 1311E | 2157D | S29 | E25 | 06 | 9.5 | 2 | 10 | 9 | 9 | E | RAMY 5521 | | |
| 07 | ADF | 1607E | 0201D | S19 | E28 | 06 | 9.8 | 1 | 05 | 9 | 9 | E | HOLL 5521 | | |
| 07 | AFS | 1712E | 1739D | N09 | W64 | 06 | 2.9 | | 01 | 9 | 9 | E | SVTO | | |
| 07 | AFS | 1712E | 1739D | S18 | W08 | 06 | 7.1 | | 03 | 9 | 9 | E | SVTO 5517 | | |
| 07 | DSD | 1734E | 0447D | N13 | W62 | 06 | 3.0 | | 03 | 9 | 9 | E | PALE | | |
| 07 | ASR | 1734E | 0447D | S12 | E90 | 06 | 14.5 | | | 9 | 9 | E | PALE | | |
| 07 | DSD | 1734E | 0447D | S18 | W09 | 06 | 7.0 | | 04 | 9 | 9 | E | PALE 5517 | | |
| 07 | DSD | 1734E | 0447D | S21 | E30 | 06 | 10.0 | | 04 | 9 | 9 | E | PALE 5521 | | |
| 07 | ADF | 1734E | 0447D | S23 | E44 | 06 | 11.1 | | 05 | 9 | 6 | E | PALE 5524 | | |
| 07 | ADF | 1734E | 0447D | S24 | E18 | 06 | 9.1 | | 06 | 9 | 9 | E | PALE 5520 | | |
| 07 | ASR | 1740E | 2157D | S10 | E90 | 06 | 14.5 | | | 9 | 9 | E | RAMY 5530 | | |
| 07 | AFS | 1749E | 2157D | N09 | W61 | 06 | 3.2 | | 02 | 9 | 9 | E | RAMY 5529 | | |

ACTIVE PROMINENCES AND FILAMENTS

131
Jun 89

JUNE 1989

| Day | Event Type | Start (UT) | End (UT) | Lat | CMD | CMP Mo | Day | Imp | Extent | Blue Shift (.1 A) | Red Shift (.1 A) | Obs Type | Sta | NOAA/USAF Reg# | Remarks |
|-----|------------|------------|----------|-----|-----|--------|------|-----|--------|-------------------|------------------|----------|------|----------------|------------------|
| 07 | ADF | 1755E | 2157D | N16 | W23 | 06 | 6.0 | 1 | 09 | 9 | 9 | E | RAMY | 5525 | |
| 07 | ADF | 1820E | 0201D | N13 | W29 | 06 | 5.6 | 2 | 20 | 9 | 9 | E | HOLL | 5525 | |
| 07 | DSD | 1848E | 0201D | S17 | E31 | 06 | 10.1 | | 03 | 9 | 9 | E | HOLL | 5521 | |
| 07 | AFS | 1849E | 0201D | N10 | W63 | 06 | 3.0 | | 02 | 8 | 8 | E | HOLL | | |
| 07 | AFS | 1851E | 0447D | S20 | E22 | 06 | 9.5 | | 04 | 9 | 9 | E | PALE | 5521 | |
| 07 | SSB | 1855 | | 337 | W51 | 06 | 4.6 | | | 0 | 0 | E | HOLL | | 360 W74 |
| 07 | APR | 2140E | 0039D | N13 | E90 | 06 | 14.7 | 1 | | | | C | VORO | | |
| 07 | APR | 2140E | 0039D | S20 | E90 | 06 | 14.8 | 1 | | | | C | VORO | | |
| 07 | BSL | 2140E | 2154D | N19 | E90 | 06 | 14.8 | 1 | | | | C | VORO | | |
| 07 | BSL | 2141E | 2200D | N31 | E90 | 06 | 15.0 | 1 | | | | C | VORO | | |
| 07 | BSL | 2154 | 2217 | S16 | E90 | 06 | 14.7 | 1 | | | | C | VORO | | |
| 07 | APR | 2217 | 0021 | S10 | E90 | 06 | 14.7 | 1 | | | | C | VORO | | |
| 07 | APR | 2237 | 0039D | S45 | W90 | 05 | 31.5 | 1 | | | | C | VORO | | |
| 07 | ASR | 2246E | 2312 | N46 | W90 | 05 | 31.4 | 1 | | | | C | VORO | | |
| 07 | BSL | 2312 | 2341 | N21 | E90 | 06 | 14.9 | 1 | | | | C | VORO | | |
| 07 | APR | 2326 | 0039D | N65 | E90 | 06 | 16.0 | 1 | | | | C | VORO | | |
| 08 | BSL | 0020 | 0039D | N21 | E90 | 06 | 14.9 | 1 | | | | C | VORO | | |
| 08 | AFS | 0420E | 1715D | N08 | W65 | 06 | 3.3 | | 02 | 9 | 9 | E | SVTO | 5529 | |
| 08 | ASR | 0420E | 1715D | N21 | E90 | 06 | 15.1 | | | 9 | 9 | E | SVTO | 5528 | |
| 08 | ASR | 0420E | 1715D | S07 | E90 | 06 | 14.9 | | | 9 | 9 | E | SVTO | 5530 | |
| 08 | BSL | 0646E | 0702D | N20 | E90 | 06 | 15.2 | 1 | | | | C | ABST | | |
| 08 | BSL | 0735 | 0742 | N84 | W90 | 05 | 31.0 | 1- | | | | C | CATA | | |
| 08 | BSL | 0845E | 0850 | S06 | E90 | 06 | 15.1 | 1 | | | | V | KHAR | | |
| 08 | DSD | 0913E | 0958D | N16 | E14 | 06 | 9.4 | | 02 | 9 | 9 | E | SVTO | | |
| 08 | ADF | 0925E | 0937 | S22 | E18 | 06 | 9.8 | 1 | | | | V | KHAR | | |
| 08 | ADF | 0928E | 1715D | S22 | E18 | 06 | 9.8 | 1 | 07 | 9 | 9 | E | SVTO | 5521 | |
| 08 | BSL | 1017 | 1018 | S88 | W90 | 05 | 31.0 | 1- | | | | C | CATA | | |
| 08 | BSL | 1017 | 1034 | S88 | E90 | 06 | 16.8 | 1- | | | | C | CATA | | |
| 08 | BSL | 1034 | 1045 | S08 | E90 | 06 | 15.2 | 1- | | | | C | CATA | | |
| 08 | BSL | 1057 | 1124D | N18 | E90 | 06 | 15.3 | 1 | | | | V | KHAR | | |
| 08 | DSD | 1159E | 1625D | S19 | E21 | 06 | 10.1 | | 03 | 9 | 9 | E | SVTO | 5521 | Flare Associated |
| 08 | ADF | 1243E | 2135D | N61 | E20 | 06 | 10.3 | 1 | 19 | 9 | 9 | E | RAMY | 5528 | |
| 08 | ASR | 1340E | 0139D | N15 | E90 | 06 | 15.4 | | | 9 | 9 | E | HOLL | 5528 | |
| 08 | SSB | 1402 | | 285 | W10 | 06 | 15.0 | | | 0 | 0 | E | RAMY | | |
| 08 | EPL | 1553E | 1650D | N12 | W90 | 06 | 1.9 | 2 | | 9 | 9 | E | SVTO | | |
| 08 | EPL | 1557E | 1945D | N10 | W90 | 06 | 1.9 | 2 | | 8 | 9 | E | RAMY | | |
| 08 | AFS | 1650E | 1715D | N16 | E09 | 06 | 9.4 | | 02 | 9 | 9 | E | SVTO | | |
| 08 | ADF | 1650E | 1715D | N24 | W56 | 06 | 4.4 | 1 | 12 | 9 | 9 | E | SVTO | | |
| 08 | ADF | 1650E | 1715D | N28 | W57 | 06 | 4.2 | 1 | 13 | 9 | 9 | E | SVTO | 5523 | |
| 08 | AFS | 1654E | 0505D | N15 | E11 | 06 | 9.5 | | 02 | 9 | 9 | E | PALE | 5531 | |
| 08 | APR | 1712E | 1715D | N32 | W90 | 06 | 1.6 | 1 | | 9 | 9 | E | SVTO | | |
| 08 | ASR | 1905E | 0139D | S20 | E90 | 06 | 15.7 | | | 9 | 9 | E | HOLL | 5530 | |
| 08 | ASR | 2231E | 0505D | N11 | W89 | 06 | 2.2 | | | 9 | 9 | E | PALE | 5529 | |
| 08 | ASR | 2233E | 0505D | S20 | E90 | 06 | 15.8 | | | 9 | 9 | E | PALE | | |
| 09 | AFS | 0231E | 0505D | S11 | E03 | 06 | 9.3 | | 03 | 8 | 8 | E | PALE | | |
| 09 | DSD | 0430E | 0827D | S17 | W71 | 06 | 3.8 | | 03 | 9 | 9 | E | SVTO | 5519 | |
| 09 | ASR | 0430E | 1637D | N08 | W90 | 06 | 2.4 | | | 9 | 9 | E | SVTO | 5529 | |
| 09 | AFS | 0430E | 1637D | N15 | E02 | 06 | 9.3 | | 02 | 9 | 9 | E | SVTO | 5531 | |
| 09 | AFS | 0430E | 1637D | S12 | E03 | 06 | 9.4 | | 02 | 9 | 9 | E | SVTO | | |
| 09 | ASR | 0514E | 1637D | S16 | E90 | 06 | 16.0 | | | 9 | 9 | E | SVTO | | |
| 09 | ASR | 0536 | 1637D | N21 | E90 | 06 | 16.1 | | | 9 | 9 | E | SVTO | 5528 | |
| 09 | BSL | 0627E | 0703D | N25 | E90 | 06 | 16.2 | 1 | | | | C | ABST | | |
| 09 | APR | 0718E | 0730 | N11 | W90 | 06 | 2.5 | 1 | | | | V | KHAR | | |
| 09 | BSL | 0721 | 0820 | N06 | W90 | 06 | 2.6 | | | 9 | 9 | E | SVTO | 5529 | |
| 09 | APR | 0724E | 1028D | S19 | E90 | 06 | 16.2 | 1 | | | | V | KHAR | | |
| 09 | LPS | 0917E | 1005 | S16 | E90 | 06 | 16.2 | | | 9 | 9 | E | SVTO | | Flare Associated |
| 09 | ASR | 1052E | 2136D | S19 | E90 | 06 | 16.3 | | | 9 | 9 | E | RAMY | 5533 | |
| 09 | ADF | 1126E | 1637D | S25 | E17 | 06 | 10.8 | 1 | 15 | 9 | 9 | E | SVTO | 5521 | |
| 09 | ADF | 1130E | 2136D | S19 | E11 | 06 | 10.3 | 1 | 09 | 9 | 9 | E | RAMY | 5521 | |
| 09 | SDF | 1140E | 0810D | S55 | W30 | 06 | 6.9 | 1 | | | | C | CATA | | |
| 09 | SDF | 1140E | 0810D | S66 | W35 | 06 | 6.3 | 1 | | | | C | CATA | | |
| 09 | ASR | 1320E | 0201D | S18 | E90 | 06 | 16.4 | | | 9 | 9 | E | HOLL | | |
| 09 | ASR | 1415E | 0201D | N11 | E90 | 06 | 16.4 | | | 9 | 9 | E | HOLL | | |
| 09 | DSD | 1435E | 1442D | S11 | W02 | 06 | 9.4 | | 03 | 9 | 9 | E | RAMY | | |
| 09 | SDF | 1438E | 1139D | S05 | W25 | 06 | 7.7 | | 07 | 0 | 0 | E | RAMY | | |
| 09 | CRN | 1514E | 2248D | S18 | E90 | 06 | 16.5 | | 14 | 9 | 9 | E | HOLL | | |
| 09 | SSB | 1600 | | 265 | W04 | 06 | 14.5 | | | 0 | 0 | E | HOLL | | 278 W17 |
| 09 | ADF | 1605E | 1610D | N27 | E56 | 06 | 14.0 | | 10 | 9 | 9 | E | HOLL | 5528 | |

ACTIVE PROMINENCES AND FILAMENTS

JUNE 1989

| Day | Event Type | Start (UT) | End (UT) | Lat | CMD | CMP Mo | Day | Imp | Extent | Blue Shift (.1 A) | Red Shift (.1 A) | Obs Type | Sta | NOAA/USAF Reg# | Remarks |
|-----|------------|------------|----------|-----|-----|--------|------|-----|--------|-------------------|------------------|----------|------|----------------|------------------|
| 09 | AFS | 1706E | 0505D | N16 | W03 | 06 | 9.5 | | 02 | 9 | 9 | E | PALE | 5531 | |
| 09 | ADF | 1706E | 0505D | N28 | E66 | 06 | 14.9 | 1 | 17 | 9 | 9 | E | PALE | 5528 | |
| 09 | AFS | 1706E | 0505D | S11 | W05 | 06 | 9.3 | | 03 | 9 | 9 | E | PALE | 5532 | |
| 09 | DSD | 1706E | 0505D | S20 | E18 | 06 | 11.1 | | 02 | 9 | 9 | E | PALE | 5524 | |
| 09 | ASR | 1706E | 2235D | N09 | E89 | 06 | 16.4 | | | 7 | 7 | E | PALE | | |
| 09 | AFS | 1706E | 2240D | N27 | W36 | 06 | 6.9 | | 01 | 9 | 9 | E | PALE | | |
| 09 | SSB | 2015 | | 267 | W08 | 06 | 14.9 | | | 0 | 0 | E | RAMY | | 277 W18 |
| 09 | ADF | 2052E | 0505D | S19 | E00 | 06 | 9.9 | 2 | 10 | 9 | 9 | E | PALE | 5521 | |
| 09 | EPL | 2305 | 0111 | S18 | E90 | 06 | 16.8 | 1 | | | | C | VORO | | |
| 09 | APR | 2316E | 0200D | N43 | W90 | 06 | 2.5 | 1 | | | | C | VORO | | |
| 09 | APR | 2325 | 0200D | N64 | E90 | 06 | 18.0 | 1 | | | | C | VORO | | |
| 09 | DSD | 2331 | 2359D | S15 | W11 | 06 | 9.1 | 1 | | | | C | VORO | | |
| 09 | BSL | 2357 | 0015 | N12 | W90 | 06 | 3.2 | 1 | | | | C | VORO | | |
| 10 | DSD | 0005 | 0020D | S16 | W10 | 06 | 9.2 | 1 | | | | C | VORO | | |
| 10 | APR | 0050 | 0200D | S35 | E90 | 06 | 17.2 | 1 | | | | C | VORO | | |
| 10 | BSL | 0130 | 0158 | S19 | W90 | 06 | 3.2 | 1 | | | | C | VORO | | |
| 10 | BSL | 0150 | 0159D | S20 | E90 | 06 | 17.0 | 1 | | | | C | VORO | | |
| 10 | SSB | 0343 | | 262 | W20 | 06 | 14.9 | | | 0 | 0 | E | PALE | | |
| 10 | BSL | 0618E | 0810D | S20 | E90 | 06 | 17.1 | 2 | | | | V | KHAR | | |
| 10 | ASR | 0623 | 1204D | S18 | E90 | 06 | 17.1 | | | 9 | 9 | E | SVTO | 5533 | Flare Associated |
| 10 | EPL | 0631E | 0645D | S21 | E90 | 06 | 17.2 | | | | | V | ATHN | | |
| 10 | BSL | 0817 | 0817D | N65 | W90 | 06 | 2.3 | 1- | | | | C | CATA | | |
| 10 | BSL | 0851 | 0901D | S20 | W90 | 06 | 3.5 | 1- | | | | C | CATA | | |
| 10 | ASR | 0853E | 1745D | S21 | W80 | 06 | 4.2 | | | 9 | 9 | E | SVTO | 5519 | |
| 10 | APR | 0855E | 0915 | S19 | W90 | 06 | 3.5 | 1 | | | | V | KHAR | | |
| 10 | BSL | 0901 | 0901D | S22 | W90 | 06 | 3.4 | 1- | | | | C | CATA | | |
| 10 | BSL | 0903 | 0925D | S20 | E90 | 06 | 17.3 | 1 | | | | V | KHAR | | |
| 10 | AFS | 0905E | 1745D | N13 | E07 | 06 | 10.9 | | 02 | 9 | 9 | E | SVTO | 5526 | |
| 10 | BSL | 0931E | 0944 | N73 | W90 | 06 | 2.1 | 1- | | | | C | CATA | | |
| 10 | ADF | 0939 | 0955 | N17 | E58 | 06 | 14.8 | 1 | | | | V | KHAR | | |
| 10 | BSL | 0940 | 1003 | S20 | E90 | 06 | 17.3 | 1 | | | | V | KHAR | | |
| 10 | BSL | 1010 | 1035 | S20 | E90 | 06 | 17.3 | 1 | | | | V | KHAR | | |
| 10 | BSL | 1112 | 1124 | S83 | E90 | 06 | 18.8 | 1- | | | | C | CATA | | |
| 10 | ADF | 1113E | 1745D | N22 | E72 | 06 | 16.0 | 1 | 06 | 9 | 9 | E | SVTO | 5528 | |
| 10 | ADF | 1113E | 1745D | N32 | E51 | 06 | 14.5 | 1 | 24 | 9 | 9 | E | SVTO | 5528 | |
| 10 | BSL | 1115 | 1130 | N69 | W90 | 06 | 2.3 | 1 | | | | C | CATA | | |
| 10 | ADF | 1128E | 1730D | S25 | W18 | 06 | 9.1 | 1 | 08 | 9 | 9 | E | SVTO | 5520 | |
| 10 | SDF | 1137E | 0716D | N60 | W35 | 06 | 7.4 | 1 | | | | C | CATA | | |
| 10 | AFS | 1139E | 2210D | N13 | E04 | 06 | 10.8 | | 02 | 9 | 9 | E | RAMY | 5526 | |
| 10 | ASR | 1139E | 2210D | S19 | E90 | 06 | 17.3 | | | 9 | 9 | E | RAMY | 5533 | |
| 10 | ASR | 1139E | 2210D | S19 | W90 | 06 | 3.6 | | | 9 | 9 | E | RAMY | 5519 | |
| 10 | ASR | 1325E | 0205D | S17 | E74 | 06 | 16.2 | | | 9 | 9 | E | HOLL | 5533 | |
| 10 | DSD | 1417E | 2030D | S17 | W11 | 06 | 9.7 | | 02 | 9 | 9 | E | RAMY | 5521 | |
| 10 | DSD | 1425E | 2318D | S17 | W11 | 06 | 9.8 | | 04 | 9 | 9 | E | HOLL | 5521 | |
| 10 | ASR | 1649E | 0505D | S22 | E90 | 06 | 17.6 | | | 9 | 9 | E | PALE | 5533 | |
| 10 | ADF | 1706E | 0505D | N28 | E66 | 06 | 15.9 | 1 | 17 | 9 | 9 | E | PALE | 5528 | |
| 10 | AFS | 1706E | 0505D | S11 | W05 | 06 | 10.3 | | 03 | 9 | 9 | E | PALE | 5532 | |
| 10 | SDF | 1730E | 1730D | S25 | W18 | 06 | 9.3 | | 08 | 0 | 0 | E | SVTO | 5520 | |
| 10 | ADF | 1810E | 2021D | S31 | W06 | 06 | 10.3 | 2 | 18 | 9 | 9 | E | HOLL | | |
| 10 | SSB | 1845 | | 248 | W01 | 06 | 14.4 | | | 0 | 0 | E | RAMY | | 267 W20 284 W37 |
| 10 | ADF | 2052E | 0505D | S19 | E00 | 06 | 10.9 | 2 | 10 | 9 | 9 | E | PALE | 5521 | |
| 10 | SSB | 2130 | | 252 | W07 | 06 | 14.8 | | | 0 | 0 | E | HOLL | | |
| 10 | APR | 2147E | 0200D | S11 | E90 | 06 | 17.7 | 1 | | | | C | VORO | | |
| 10 | APR | 2200 | 0200D | N41 | W90 | 06 | 3.5 | 1 | | | | C | VORO | | |
| 10 | APR | 2200 | 0200D | N64 | E90 | 06 | 18.9 | 1 | | | | C | VORO | | |
| 10 | BSL | 2209 | 2231D | S28 | W90 | 06 | 3.9 | 1 | | | | C | VORO | | |
| 10 | SDF | 2210E | 1115D | N57 | W35 | 06 | 7.9 | | 20 | 0 | 0 | E | RAMY | | |
| 10 | APR | 2231 | 0200D | S42 | E90 | 06 | 18.3 | 1 | | | | C | VORO | | |
| 10 | APR | 2231 | 0200D | S48 | W90 | 06 | 3.4 | 1 | | | | C | VORO | | |
| 10 | ADF | 2258 | 0200D | S35 | E10 | 06 | 11.7 | 1 | | | | C | VORO | | |
| 11 | BSL | 0153 | 0200D | N08 | W90 | 06 | 4.3 | 1 | | | | C | VORO | | |
| 11 | BSL | 0153 | 0200D | N15 | W90 | 06 | 4.3 | 1 | | | | C | VORO | | |
| 11 | AFS | 0445E | 0758D | N16 | W24 | 06 | 9.4 | | 02 | 5 | 6 | E | LEAR | 5531 | |
| 11 | AFS | 0530E | 1739D | N13 | W05 | 06 | 10.8 | | 03 | 9 | 9 | E | SVTO | 5526 | |
| 11 | BSL | 0720 | 0727 | S75 | E90 | 06 | 19.6 | 1- | | | | C | CATA | | |
| 11 | APR | 0726 | 0800 | N32 | W90 | 06 | 4.2 | 1 | | | | V | KHAR | | |
| 11 | APR | 0750 | 0815D | N39 | W90 | 06 | 4.0 | 1 | | | | V | KHAR | | |
| 11 | BSL | 0826E | 0826D | N07 | E90 | 06 | 18.1 | 1- | | | | C | CATA | | |

ACTIVE PROMINENCES AND FILAMENTS

133
Jun 89

JUNE 1989

| Day | Event Type | Start (UT) | End (UT) | Lat | CMD | CMP Mo | Day | Imp | Extent | Blue Shift (.1 A) | Red Shift (.1 A) | Obs Type | Sta | NOAA/ USAF Reg# | Remarks |
|-----|------------|------------|----------|-----|-----|--------|------|-----|--------|-------------------|------------------|----------|------|-----------------|------------------|
| 11 | ADF | 0903 | 1045D | S15 | W24 | 06 | 9.6 | 1 | | | | V | KHAR | | |
| 11 | ADF | 0936 | 0957 | N17 | E50 | 06 | 15.2 | 1 | | | | V | KHAR | | |
| 11 | ADF | 0937 | 0948 | S20 | E46 | 06 | 14.9 | 1 | | | | V | KHAR | | |
| 11 | APR | 0940E | 1037 | S62 | E90 | 06 | 19.4 | 1 | | | | V | KHAR | | |
| 11 | BSL | 0950E | 1025D | S60 | E90 | 06 | 19.3 | 2 | | | | C | CATA | | |
| 11 | BSL | 1006E | 1013D | N69 | E90 | 06 | 19.6 | 1- | | | | C | CATA | | |
| 11 | AFS | 1030E | 1739D | N16 | E62 | 06 | 16.1 | 1 | 03 | 9 | 9 | E | SVTO | 5533 | |
| 11 | DSD | 1140E | 1358D | S16 | W27 | 06 | 9.4 | | 06 | 9 | 9 | E | RAMY | 5521 | |
| 11 | DSD | 1140E | 1836D | S17 | W23 | 06 | 9.7 | | 02 | 9 | 9 | E | RAMY | 5521 | |
| 11 | AFS | 1154E | 1836D | S18 | E61 | 06 | 16.1 | | 04 | 9 | 9 | E | RAMY | 5533 | |
| 11 | AFS | 1200E | 1836D | N12 | W08 | 06 | 10.9 | | 03 | 9 | 9 | E | RAMY | 5526 | |
| 11 | DSD | 1544E | 2033D | S21 | E63 | 06 | 16.5 | | 09 | 9 | 9 | E | HOLL | 5533 | Flare Associated |
| 11 | ADF | 1544E | 2033D | S21 | E70 | 06 | 17.0 | 1 | 06 | 9 | 9 | E | HOLL | 5533 | |
| 11 | SDF | 1739E | 0436D | N22 | W20 | 06 | 10.2 | | 08 | 0 | 0 | E | SVTO | | |
| 11 | DSD | 1745E | 0458D | N16 | E43 | 06 | 15.0 | | 06 | 9 | 9 | E | PALE | 5528 | |
| 11 | ADF | 1745E | 0458D | N19 | W26 | 06 | 9.7 | | 07 | 9 | 9 | E | PALE | 5531 | |
| 11 | ASR | 1745E | 0458D | N27 | E71 | 06 | 17.3 | | | 9 | 9 | E | PALE | 5535 | |
| 11 | DSD | 1745E | 0458D | S18 | E56 | 06 | 16.0 | | 04 | 9 | 8 | E | PALE | 5533 | |
| 11 | DSD | 1745E | 0458D | S27 | W37 | 06 | 8.8 | | 05 | 9 | 9 | E | PALE | 5520 | |
| 11 | SDF | 1941E | 1955D | N31 | E46 | 06 | 15.4 | | 08 | 0 | 0 | E | HOLL | 5528 | |
| 11 | SSB | 2045 | | 235 | W02 | 06 | 14.5 | | | 0 | 0 | E | HOLL | | 249 W16 280 W47 |
| 11 | APR | 2146E | 0025 | N15 | W90 | 06 | 5.1 | 1 | | | | C | VORO | | |
| 11 | APR | 2146E | 0200D | N27 | W90 | 06 | 4.9 | 1 | | | | C | VORO | | |
| 11 | APR | 2157 | 0200D | S21 | W90 | 06 | 5.0 | 1 | | | | C | VORO | | |
| 11 | APR | 2235 | 0200D | S40 | E90 | 06 | 19.3 | 1 | | | | C | VORO | | |
| 11 | APR | 2235 | 0200D | S50 | W90 | 06 | 4.3 | 1 | | | | C | VORO | | |
| 12 | BSL | 0152 | 0200D | N21 | W90 | 06 | 5.2 | 1 | | | | C | VORO | | |
| 12 | SSB | 0355 | | 279 | W48 | 06 | 18.8 | | | 0 | 0 | E | PALE | | |
| 12 | DSD | 0444E | 1512D | S14 | W42 | 06 | 9.0 | | 04 | 9 | 9 | E | SVTO | 5521 | |
| 12 | AFS | 0500E | 1732D | N12 | W20 | 06 | 10.7 | | 02 | 9 | 9 | E | SVTO | 5526 | |
| 12 | AFS | 0524E | 1732D | S08 | E25 | 06 | 14.1 | | 02 | 9 | 9 | E | SVTO | 5530 | |
| 12 | AFS | 0526E | 1732D | S17 | W40 | 06 | 9.2 | | 02 | 9 | 9 | E | SVTO | 5521 | |
| 12 | AFS | 0750E | 1732D | N24 | E37 | 06 | 15.2 | | 02 | 9 | 9 | E | SVTO | 5528 | |
| 12 | BSL | 0910E | 0910D | S23 | E90 | 06 | 19.3 | 1- | | | | C | CATA | | |
| 12 | BSL | 0926 | 0939 | N72 | E90 | 06 | 20.6 | 1 | | | | C | CATA | | |
| 12 | BSL | 0926 | 0948 | S22 | E90 | 06 | 19.3 | 1- | | | | C | CATA | | |
| 12 | DSD | 0930E | 1732D | S24 | W34 | 06 | 9.8 | | 07 | 9 | 9 | E | SVTO | 5521 | |
| 12 | SDF | 1020E | 0652D | N03 | E38 | 06 | 15.3 | 1 | | | | C | CATA | | |
| 12 | SDF | 1020E | 0652D | S48 | W63 | 06 | 7.1 | 1 | | | | C | CATA | | |
| 12 | AFS | 1320E | 0159D | N18 | E27 | 06 | 14.6 | | 04 | 9 | 9 | E | HOLL | 5528 | |
| 12 | AFS | 1324E | 0159D | S16 | W44 | 06 | 9.2 | | 03 | 9 | 9 | E | HOLL | 5521 | |
| 12 | SSB | 1415 | | 264 | W41 | 06 | 17.8 | | | 0 | 0 | E | HOLL | | 267 W44 |
| 12 | AFS | 1430E | 0159D | S10 | E20 | 06 | 14.1 | | 02 | 9 | 9 | E | HOLL | 5530 | |
| 12 | SSB | 1815 | | 267 | W47 | 06 | 18.4 | | | 0 | 0 | E | PALE | | |
| 12 | AFS | 1815E | 0438D | N17 | W44 | 06 | 9.4 | | 03 | 9 | 9 | E | PALE | 5531 | |
| 12 | ADF | 1815E | 0438D | S21 | W37 | 06 | 9.9 | 1 | 11 | 9 | 9 | E | PALE | 5521 | |
| 12 | ADF | 1815E | 2209D | N15 | E39 | 06 | 15.7 | 1 | 08 | 9 | 9 | E | PALE | | |
| 12 | DSD | 1815E | 2300D | N21 | E24 | 06 | 14.6 | | 04 | 9 | 9 | E | PALE | 5528 | |
| 12 | DSD | 1915E | 2211D | S15 | W51 | 06 | 8.9 | | 03 | 9 | 9 | E | PALE | 5521 | Flare Associated |
| 12 | AFS | 2209E | 0438D | N15 | E38 | 06 | 15.8 | | 03 | 9 | 9 | E | PALE | | |
| 12 | AFS | 2213E | 0159D | N14 | E39 | 06 | 15.9 | | 04 | 9 | 9 | E | HOLL | | |
| 12 | AFS | 2216E | 0438D | N15 | W27 | 06 | 10.9 | | 02 | 7 | 7 | E | PALE | 5526 | |
| 12 | ADF | 2220E | 0159D | S22 | W46 | 06 | 9.4 | | 08 | 9 | 9 | E | HOLL | 5521 | |
| 12 | AFS | 2252E | 0438D | S10 | E18 | 06 | 14.3 | | 02 | 8 | 8 | E | PALE | 5530 | |
| 12 | AFS | 2310E | 0159D | N17 | E21 | 06 | 14.6 | | 02 | 9 | 9 | E | HOLL | 5528 | |
| 12 | DSD | 2310E | 0159D | N21 | E28 | 06 | 15.1 | | 03 | 9 | 9 | E | HOLL | 5528 | |
| 12 | AFS | 2347E | 0159D | S15 | W45 | 06 | 9.6 | | 02 | 9 | 9 | E | HOLL | 5521 | |
| 13 | DSD | 0005E | 0438D | N15 | E36 | 06 | 15.7 | | 03 | 9 | 9 | E | PALE | | |
| 13 | AFS | 0155E | 1039D | N20 | E24 | 06 | 14.9 | | 02 | 9 | 9 | E | LEAR | 5528 | |
| 13 | ADF | 0156E | 0900D | S18 | W35 | 06 | 10.4 | 1 | 08 | 9 | 9 | E | LEAR | 5421 | |
| 13 | DSD | 0157E | 0900D | N16 | W53 | 06 | 9.1 | | 03 | 9 | 9 | E | LEAR | 5531 | |
| 13 | AFS | 0157E | 1039D | N16 | W49 | 06 | 9.4 | | 02 | 9 | 9 | E | LEAR | 5531 | |
| 13 | AFS | 0158E | 0900D | N15 | E35 | 06 | 15.7 | | 03 | 9 | 9 | E | LEAR | | |
| 13 | APR | 0606E | 0740D | N30 | W90 | 06 | 6.2 | 1 | | | | C | ABST | | |
| 13 | BSL | 0606E | 0740D | N75 | W90 | 06 | 5.0 | 1 | | | | C | ABST | | |
| 13 | BSL | 0708 | 0740D | N13 | E90 | 06 | 20.1 | 1 | | | | C | ABST | | |
| 13 | DSD | 0835 | 0845 | N15 | E33 | 06 | 15.8 | 1 | | | | V | KHAR | | |
| 13 | APR | 0951 | 1100D | N69 | E90 | 06 | 21.6 | 1 | | | | V | KHAR | | |

ACTIVE PROMINENCES AND FILAMENTS

JUNE 1989

| Day | Event Type | Start (UT) | End (UT) | Lat | CMD | CMP Mo Day | Imp | Extent | Blue Shift (.1 A) | Red Shift (.1 A) | Obs Type | Sta | NOAA/ USAF Reg# | Remarks |
|-----|------------|------------|----------|-----|-----|------------|-----|--------|-------------------|------------------|----------|------|-----------------|------------------|
| 13 | DSD | 1033 | 1100D | N15 | E33 | 06 15.9 | 1 | | | | V | KHAR | | |
| 13 | ADF | 1225E | 2215D | S19 | E39 | 06 16.5 | 2 | 05 | 9 | 9 | E | RAMY | 5533 | |
| 13 | ADF | 1513E | 2130D | S22 | E40 | 06 16.7 | 1 | 06 | 9 | 9 | E | HOLL | 5533 | |
| 13 | AFS | 1523E | 2130D | N14 | W53 | 06 9.6 | | 03 | 8 | 7 | E | HOLL | 5531 | |
| 13 | AFS | 1612E | 2130D | N21 | E13 | 06 14.7 | | 07 | 9 | 9 | E | HOLL | 5528 | |
| 13 | AFS | 1637E | 1647D | N16 | E25 | 06 15.6 | | 01 | 9 | 9 | E | SVTO | 5536 | |
| 13 | SSB | 1640 | | 268 | W60 | 06 19.7 | | | 0 | 0 | E | PALE | | |
| 13 | AFS | 1640E | 0507D | N15 | E26 | 06 15.7 | | 02 | 9 | 9 | E | PALE | 5536 | |
| 13 | AFS | 1640E | 0507D | N17 | W59 | 06 9.2 | | 02 | 9 | 9 | E | PALE | 5531 | |
| 13 | AFS | 1640E | 0507D | N23 | E12 | 06 14.6 | | 03 | 9 | 9 | E | PALE | 5528 | |
| 13 | ADF | 1640E | 0507D | S20 | E36 | 06 16.4 | 1 | 08 | 9 | 9 | E | PALE | 5533 | |
| 13 | ADF | 1640E | 0507D | S24 | W63 | 06 8.8 | | 14 | 9 | 9 | E | PALE | 5521 | |
| 13 | SSB | 1835 | | 242 | W35 | 06 17.1 | | | 0 | 0 | E | HOLL | | 251 W44 |
| 13 | DSD | 1942E | 2043D | N15 | E25 | 06 15.7 | | 03 | 9 | 9 | E | RAMY | 5536 | |
| 13 | ADF | 1945E | 2130D | S18 | W50 | 06 10.0 | 2 | 12 | 9 | 9 | E | HOLL | 5521 | |
| 14 | AFS | 0005E | 0912D | N22 | E09 | 06 14.7 | | 04 | 9 | 9 | E | LEAR | 5528 | |
| 14 | AFS | 0007E | 0715D | N16 | E21 | 06 15.6 | | 03 | 9 | 9 | E | LEAR | 5536 | |
| 14 | AFS | 0010E | 0912D | N17 | W63 | 06 9.2 | | 02 | 9 | 9 | E | LEAR | 5531 | |
| 14 | AFS | 0012E | 0912D | S17 | W41 | 06 10.9 | | 02 | 9 | 9 | E | LEAR | 5524 | |
| 14 | DSD | 0014E | 0715D | S17 | W56 | 06 9.7 | | 04 | 9 | 9 | E | LEAR | 5521 | |
| 14 | AFS | 0014E | 0912D | S13 | W62 | 06 9.3 | | 02 | 9 | 9 | E | LEAR | 5521 | |
| 14 | BSL | 0638E | 0710D | N15 | E90 | 06 21.1 | 1 | | | | C | ABST | | |
| 14 | BSL | 0638E | 0710D | N15 | W90 | 06 7.5 | 1 | | | | C | ABST | | |
| 14 | BSL | 0723E | 0743 | S89 | W90 | 06 5.9 | 1- | | | | C | CATA | | |
| 14 | BSL | 0922E | 0947 | S26 | E90 | 06 21.4 | 1 | | | | C | CATA | | |
| 14 | BSL | 1131E | 1135D | S78 | W90 | 06 6.1 | 1- | | | | C | CATA | | |
| 14 | SPY | 1359 | 1426 | S16 | W76 | 06 8.8 | | | 9 | 9 | E | HOLL | 5521 | Flare Associated |
| 14 | BSD | 1359E | 1421 | S17 | W80 | 06 8.5 | | 22 | 9 | 9 | E | SVTO | 5521 | Flare Associated |
| 14 | BSD | 1421 | 1509D | S17 | W80 | 06 8.5 | | 14 | 9 | 9 | E | SVTO | 5521 | Flare Associated |
| 14 | EPL | 1543E | 1654D | N39 | W90 | 06 7.3 | | | 9 | 9 | E | HOLL | | |
| 14 | ASR | 1634E | 1942D | S20 | E90 | 06 21.6 | | | 9 | 9 | E | RAMY | 5542 | |
| 14 | BSD | 1635E | 1942D | S18 | W80 | 06 8.6 | | | 9 | 9 | E | RAMY | 5521 | Flare Associated |
| 14 | DSD | 1721E | 1942D | N15 | W74 | 06 9.1 | | 02 | 9 | 9 | E | RAMY | 5531 | |
| 14 | BSD | 1744 | 1749 | S20 | E22 | 06 16.4 | | 06 | 9 | 9 | E | HOLL | 5533 | Flare Associated |
| 14 | DSD | 1749 | 0017D | S20 | E22 | 06 16.4 | | 06 | 9 | 9 | E | HOLL | 5533 | Flare Associated |
| 14 | DSD | 1802E | 0017D | S18 | E14 | 06 15.8 | | 04 | 9 | 9 | E | HOLL | 5533 | |
| 14 | DSD | 2326E | 0452D | S22 | E23 | 06 16.7 | | 05 | 9 | 9 | E | LEAR | 5533 | |
| 14 | AFS | 2326E | 0859D | S18 | E20 | 06 16.5 | | 03 | 9 | 9 | E | LEAR | 5533 | |
| 14 | AFS | 2350E | 0859D | S24 | W03 | 06 14.8 | | 02 | 9 | 9 | E | LEAR | 5540 | |
| 15 | ASR | 0018E | 0859D | S14 | W84 | 06 8.7 | | | 9 | 9 | E | LEAR | 5521 | |
| 15 | ASR | 0019E | 0859D | N20 | E86 | 06 21.6 | | | 9 | 9 | E | LEAR | | |
| 15 | BSL | 0433E | 0700D | S35 | W90 | 06 8.0 | 1 | | | | C | ABST | | |
| 15 | BSL | 0433E | 0700D | S65 | E90 | 06 23.2 | 1 | | | | C | ABST | | |
| 15 | BSL | 0534E | 0700D | N41 | W90 | 06 7.9 | 1 | | | | C | ABST | | |
| 15 | BSL | 0534E | 0700D | N46 | W90 | 06 7.7 | 1 | | | | C | ABST | | |
| 15 | ASR | 0601 | 0859D | N17 | W81 | 06 9.1 | | | 9 | 9 | E | LEAR | 5531 | |
| 15 | BSL | 0729E | 0827D | S15 | W90 | 06 8.5 | 1- | | | | C | CATA | | |
| 15 | BSL | 0745E | 0800 | N12 | W90 | 06 8.5 | 1- | | | | C | CATA | | |
| 15 | BSL | 0756E | 0827D | N14 | W90 | 06 8.5 | 1 | | | | C | CATA | | |
| 15 | BSL | 0806 | 0816 | S14 | W90 | 06 8.5 | 1- | | | | C | CATA | | |
| 15 | BSL | 0846E | 0850D | S15 | W90 | 06 8.5 | 1- | | | | C | CATA | | |
| 15 | BSL | 0847E | 0850D | N14 | W90 | 06 8.6 | 1- | | | | C | CATA | | |
| 15 | BSL | 0920E | 0927 | S77 | W90 | 06 7.1 | 1- | | | | C | CATA | | |
| 15 | BSL | 0930 | 0946 | S83 | W90 | 06 7.0 | 1- | | | | C | CATA | | |
| 15 | BSL | 0935E | 1041 | S15 | W90 | 06 8.6 | 2 | | | | C | CATA | | |
| 15 | BSL | 0946 | 0950 | N14 | W90 | 06 8.6 | 1- | | | | C | CATA | | |
| 15 | BSL | 1003E | 1010 | S25 | E90 | 06 22.4 | 1- | | | | C | CATA | | |
| 15 | BSL | 1003E | 1036 | S35 | E90 | 06 22.6 | 1 | | | | C | CATA | | |
| 15 | BSL | 1006 | 1036 | N14 | W90 | 06 8.6 | 1- | | | | C | CATA | | |
| 15 | BSL | 1015 | 1140D | S48 | W90 | 06 7.9 | 1- | | | | C | CATA | | |
| 15 | BSL | 1030 | 1140D | S17 | W90 | 06 8.6 | 1- | | | | C | CATA | | |
| 15 | BSL | 1045 | 1100 | S19 | W90 | 06 8.6 | 1- | | | | C | CATA | | |
| 15 | BSL | 1117 | 1126 | N14 | W90 | 06 8.7 | 1- | | | | C | CATA | | |
| 15 | ASR | 1125E | 1926D | N19 | W86 | 06 8.9 | | | 9 | 9 | E | RAMY | 5531 | |
| 15 | ASR | 1125E | 1926D | N20 | E90 | 06 22.3 | | | 9 | 9 | E | RAMY | | |
| 15 | ASR | 1125E | 1926D | S16 | W90 | 06 8.6 | | | 9 | 9 | E | RAMY | 5521 | |
| 15 | SDF | 1141E | 0626D | N19 | W49 | 06 11.7 | 2 | | | | C | CATA | | |
| 15 | ASR | 1236E | 0205D | S13 | W90 | 06 8.7 | | | 9 | 9 | E | HOLL | 5521 | |

ACTIVE PROMINENCES AND FILAMENTS

135
Jun 89

JUNE 1989

| Day | Event Type | Start (UT) | End (UT) | Lat | CMD | CMP No | Day | Imp | Extent | Blue Shift (.1 A) | Red Shift (.1 A) | Obs Type | Sta | NOAA/USAF Reg# | Remarks |
|-----|------------|------------|----------|-----|-----|--------|------|-----|--------|-------------------|------------------|----------|------|----------------|------------------|
| 15 | ASR | 1248E | 1739D | S18 | W86 | 06 | 9.0 | | | 9 | 9 | E | SVTO | 5521 | |
| 15 | ASR | 1255E | 1739D | N23 | E90 | 06 | 22.5 | | | 9 | 9 | E | SVTO | | |
| 15 | ASR | 1257E | 1739D | N14 | W86 | 06 | 9.0 | | | 9 | 9 | E | SVTO | 5531 | |
| 15 | AFS | 1302E | 1739D | N22 | E40 | 06 | 18.6 | | 02 | 9 | 9 | E | SVTO | 5538 | |
| 15 | AFS | 1338E | 1926D | N20 | E38 | 06 | 18.5 | | 02 | 8 | 6 | E | RAMY | 5538 | |
| 15 | SPY | 1354E | 1411D | S14 | W90 | 06 | 8.8 | | | 9 | 9 | E | HOLL | 5521 | |
| 15 | BSD | 1357E | 1414D | N16 | E89 | 06 | 22.3 | | 12 | 9 | 9 | E | RAMY | 5521 | Flare Associated |
| 15 | SDF | 1503E | 1033D | N24 | W55 | 06 | 11.4 | | 14 | 0 | 0 | E | RAMY | | |
| 15 | AFS | 1552E | 1739D | S10 | W43 | 06 | 12.4 | | 02 | 9 | 9 | E | SVTO | | |
| 15 | DSD | 1555 | 1926D | S19 | E10 | 06 | 16.4 | | 03 | 9 | 9 | E | RAMY | 5533 | Flare Associated |
| 15 | ADF | 1702E | 1926D | N12 | W30 | 06 | 13.4 | 1 | 20 | 9 | 9 | E | RAMY | | |
| 15 | AFS | 1720E | 0205D | N11 | W43 | 06 | 12.5 | | 02 | 9 | 9 | E | HOLL | | |
| 15 | SDF | 1739E | 0504D | S19 | W39 | 06 | 12.7 | | 36 | 0 | 0 | E | SVTO | | |
| 15 | DSD | 1811E | 0500D | S16 | E05 | 06 | 16.1 | | 05 | 9 | 9 | E | PALE | 5533 | Flare Associated |
| 15 | DSD | 2000E | 2030D | S19 | W65 | 06 | 10.9 | | 14 | 9 | 9 | E | HOLL | 5524 | |
| 15 | ASR | 2327E | 0931D | N15 | W82 | 06 | 9.8 | | | 9 | 9 | E | LEAR | 5531 | |
| 15 | ASR | 2329E | 0931D | S13 | W84 | 06 | 9.6 | | | 9 | 9 | E | LEAR | 5521 | |
| 15 | DSD | 2331E | 0931D | S19 | E06 | 06 | 16.4 | | 06 | 9 | 9 | E | LEAR | 5533 | |
| 16 | ASR | 0009E | 0931D | N17 | E85 | 06 | 22.5 | | | 9 | 9 | E | LEAR | | |
| 16 | AFS | 0135E | 0931D | N17 | W01 | 06 | 16.0 | | 02 | 9 | 9 | E | LEAR | 5536 | |
| 16 | SDF | 0652E | 0725D | S20 | W90 | 06 | 9.4 | 1 | | | | C | CATA | | |
| 16 | BSL | 0656 | 0736 | N17 | W90 | 06 | 9.4 | 1- | | | | C | CATA | | |
| 16 | BSL | 0839 | 0846 | S16 | W90 | 06 | 9.5 | 1- | | | | C | CATA | | |
| 16 | BSL | 1030 | 1102 | N14 | W90 | 06 | 9.6 | 1 | | | | C | CATA | | |
| 16 | AFS | 1033E | 2144D | N10 | W56 | 06 | 12.2 | | 02 | 9 | 9 | E | RAMY | 5545 | |
| 16 | ASR | 1033E | 2144D | N13 | W87 | 06 | 9.9 | | | 9 | 9 | E | RAMY | 5531 | |
| 16 | DSD | 1100E | 1104D | N11 | W76 | 06 | 10.7 | | 03 | 9 | 9 | E | RAMY | 5531 | Flare Associated |
| 16 | BSL | 1130 | 1136D | S18 | W90 | 06 | 9.6 | 1 | | | | C | CATA | | |
| 16 | AFS | 1327E | 2325D | N18 | W06 | 06 | 16.1 | | 06 | 9 | 9 | E | HOLL | 5536 | |
| 16 | DSD | 1348E | 1600D | S17 | W10 | 06 | 15.8 | | 04 | 9 | 9 | E | HOLL | 5533 | |
| 16 | AFS | 1350E | 2144D | N20 | E26 | 06 | 18.6 | | 02 | 9 | 9 | E | RAMY | 5538 | |
| 16 | AFS | 1350E | 2144D | N21 | E71 | 06 | 22.0 | | 03 | 9 | 9 | E | RAMY | 5544 | |
| 16 | AFS | 1544E | 2325D | N10 | W56 | 06 | 12.4 | | 04 | 9 | 9 | E | HOLL | 5545 | |
| 16 | AFS | 1608E | 2325D | N21 | E26 | 06 | 18.7 | | 03 | 9 | 9 | E | HOLL | 5538 | |
| 16 | AFS | 1615E | 2325D | S22 | E62 | 06 | 21.4 | | 05 | 9 | 9 | E | HOLL | 5542 | |
| 16 | ASR | 1621E | 2325D | N17 | W90 | 06 | 9.8 | | | 9 | 9 | E | HOLL | 5531 | |
| 16 | ASR | 1702E | 1851D | S22 | W90 | 06 | 9.8 | | | 9 | 9 | E | RAMY | 5524 | |
| 16 | DSD | 1758E | 2035D | N18 | W29 | 06 | 14.5 | | 03 | 9 | 9 | E | PALE | 5528 | |
| 16 | ASR | 1758E | 2035D | N19 | W89 | 06 | 9.9 | | | 9 | 9 | E | PALE | 5526 | |
| 16 | ADF | 1758E | 2035D | S20 | W07 | 06 | 16.2 | 1 | 08 | 9 | 9 | E | PALE | 5533 | |
| 17 | AFS | 0122E | 0933D | S17 | W07 | 06 | 16.5 | | 03 | 9 | 9 | E | LEAR | 5533 | |
| 17 | AFS | 0125E | 0933D | N18 | E47 | 06 | 20.6 | | 02 | 9 | 9 | E | LEAR | 5543 | |
| 17 | AFS | 0132E | 0933D | N19 | E19 | 06 | 18.5 | | 03 | 9 | 9 | E | LEAR | 5538 | |
| 17 | ASR | 0239 | 0933D | S16 | W85 | 06 | 10.7 | | | 7 | 7 | E | LEAR | 5524 | |
| 17 | BSL | 0630E | 0636D | S18 | W90 | 06 | 10.4 | 1- | | | | C | CATA | | |
| 17 | BSL | 0742 | 0803 | S18 | W90 | 06 | 10.5 | 1- | | | | C | CATA | | |
| 17 | BSL | 0742 | 0803 | S20 | W90 | 06 | 10.4 | 1- | | | | C | CATA | | |
| 17 | BSL | 0827 | 0827D | S18 | W90 | 06 | 10.5 | 1- | | | | C | CATA | | |
| 17 | BSL | 0839E | 0840D | S18 | W90 | 06 | 10.5 | 1 | | | | C | CATA | | |
| 17 | BSL | 0918 | 0927 | N05 | W90 | 06 | 10.6 | 1- | | | | C | CATA | | |
| 17 | AFS | 0929E | 1221D | N21 | E15 | 06 | 18.5 | | 01 | 8 | 9 | E | SVTO | 5538 | |
| 17 | BSL | 0932 | 0953D | N12 | W90 | 06 | 10.6 | 1- | | | | C | CATA | | |
| 17 | ASR | 1046E | 1142D | N13 | W90 | 06 | 10.6 | | | 9 | 9 | E | RAMY | 5526 | |
| 17 | ADF | 1109E | 1750D | S17 | W33 | 06 | 14.9 | 1 | 16 | 9 | 9 | E | SVTO | 5530 | |
| 17 | ADF | 1130E | 1512D | S13 | E34 | 06 | 20.0 | 1 | 04 | 9 | 9 | E | RAMY | 5541 | |
| 17 | ADF | 1130E | 1914D | S12 | E55 | 06 | 21.6 | 1 | 09 | 9 | 9 | E | RAMY | 5542 | |
| 17 | DSD | 1136E | 1520D | N17 | E42 | 06 | 20.7 | | 02 | 9 | 9 | E | RAMY | 5543 | |
| 17 | ASR | 1211E | 1708D | S19 | W90 | 06 | 10.6 | | | 8 | 8 | E | RAMY | 5524 | |
| 17 | AFS | 1221E | 1750D | N20 | E42 | 06 | 20.7 | | 02 | 9 | 9 | E | SVTO | 5543 | |
| 17 | ASR | 1254E | 1750D | S20 | W90 | 06 | 10.6 | | | 9 | 9 | E | SVTO | 5524 | |
| 17 | ADF | 1320E | 1750D | S43 | E41 | 06 | 20.9 | 1 | 12 | 9 | 9 | E | SVTO | | |
| 17 | ADF | 1320E | 1750D | S46 | W12 | 06 | 16.5 | 1 | 46 | 9 | 9 | E | SVTO | | |
| 17 | DSD | 1555E | 1700D | N31 | E11 | 06 | 18.5 | | 02 | 9 | 9 | E | SVTO | 5535 | |
| 17 | LPS | 1622 | 0030D | N17 | W41 | 06 | 14.6 | | | 9 | 9 | E | HOLL | 5528 | Flare Associated |
| 17 | LPS | 1623E | 1658 | N16 | W36 | 06 | 14.9 | | | 9 | 9 | E | SVTO | 5528 | Flare Associated |
| 17 | LPS | 1634E | 1707D | N17 | W41 | 06 | 14.6 | | | 9 | 9 | E | RAMY | 5528 | Flare Associated |
| 17 | SSB | 2005 | | 173 | W20 | 06 | 23.4 | | | 0 | 0 | E | HOLL | | 194 W41 |
| 17 | DSD | 2035E | 0205D | N19 | E52 | 06 | 21.8 | | 03 | 9 | 9 | E | PALE | 5544 | |

ACTIVE PROMINENCES AND FILAMENTS

JUNE 1989

| Day | Event Type | Start (UT) | End (UT) | Lat | CMD | CHP Mo Day | Imp | Extent | Blue Shift (.1 A) | Red Shift (.1 A) | Obs Type | Sta | NOAA/USAF Reg# | Remarks |
|-----|------------|------------|----------|-----|-----|------------|-----|--------|-------------------|------------------|----------|------|----------------|------------------|
| 17 | AFS | 2035E | 0506D | N16 | E38 | 06 20.7 | | 02 | 9 | 9 | E | PALE | 5543 | |
| 17 | AFS | 2336E | 0825D | N16 | E36 | 06 20.7 | | 02 | 7 | 7 | E | LEAR | 5543 | |
| 17 | AFS | 2337E | 0933D | N21 | E52 | 06 22.0 | | 02 | 9 | 9 | E | LEAR | 5544 | |
| 18 | ASR | 0358E | 0933D | S21 | E90 | 06 25.1 | | | 9 | 9 | E | LEAR | | |
| 18 | DSD | 0636E | 0710D | S20 | W31 | 06 15.9 | | 04 | 9 | 9 | E | LEAR | 5533 | Flare Associated |
| 18 | AFS | 0705E | 1714D | N16 | W32 | 06 15.9 | | 03 | 9 | 9 | E | SVTO | 5536 | |
| 18 | AFS | 0705E | 1714D | N19 | E32 | 06 20.7 | | 01 | 9 | 9 | E | SVTO | 5543 | |
| 18 | AFS | 0705E | 1714D | S19 | E44 | 06 21.6 | | 01 | 9 | 9 | E | SVTO | 5542 | |
| 18 | ADF | 0705E | 1740D | N24 | W39 | 06 15.3 | 1 | 07 | 9 | 9 | E | SVTO | 5528 | |
| 18 | ASR | 0705E | 1740D | S18 | E90 | 06 25.1 | | | 9 | 9 | E | SVTO | | |
| 18 | AFS | 0705E | 1740D | S21 | W18 | 06 16.9 | | 03 | 8 | 8 | E | SVTO | 5533 | |
| 18 | AFS | 0720E | 1740D | S25 | W43 | 06 15.0 | | 01 | 9 | 9 | E | SVTO | 5540 | |
| 18 | BSL | 0804 | 0804D | N44 | W90 | 06 10.9 | 1- | | | | C | CATA | | |
| 18 | APR | 0839E | 0945D | N05 | W90 | 06 11.6 | 3 | | 9 | 9 | E | SVTO | 5547 | |
| 18 | BSL | 0844E | 0846D | S05 | W90 | 06 11.6 | 2 | | | | C | CATA | | |
| 18 | BSL | 0849 | 0945D | N03 | W90 | 06 11.6 | | | 9 | 9 | E | SVTO | 5547 | |
| 18 | EPL | 0850E | 0903D | N08 | W90 | 06 11.6 | | | | | V | ATHN | | |
| 18 | BSL | 0901E | 0905D | S06 | W90 | 06 11.6 | 2 | | | | C | CATA | | |
| 18 | ASR | 0945E | 1740D | N03 | W90 | 06 11.7 | | | 9 | 9 | E | SVTO | 5547 | |
| 18 | BSL | 1002E | 1014 | S27 | E90 | 06 25.4 | 1- | | | | C | CATA | | |
| 18 | BSL | 1002E | 1014D | N07 | W90 | 06 11.7 | 1- | | | | C | CATA | | |
| 18 | DSD | 1032 | 1040 | N15 | W36 | 06 15.7 | 1 | | | | V | KHAR | | |
| 18 | DSD | 1048E | 1100D | N19 | E46 | 06 22.0 | 1 | | | | V | KHAR | | |
| 18 | AFS | 1058E | 2147D | N17 | W33 | 06 15.9 | | 03 | 9 | 9 | E | RAMY | 5536 | |
| 18 | AFS | 1120E | 1455D | S24 | W48 | 06 14.8 | | 02 | 9 | 9 | E | RAMY | 5540 | |
| 18 | AFS | 1250E | 1602D | N28 | W17 | 06 17.2 | | 02 | 8 | 7 | E | RAMY | 5537 | |
| 18 | ASR | 1409E | 1601D | S21 | E90 | 06 25.5 | | | 9 | 9 | E | RAMY | | |
| 18 | ADF | 1410E | 0201D | N25 | W45 | 06 15.1 | | 07 | 9 | 9 | E | HOLL | 5528 | |
| 18 | DSD | 1447E | 1501D | N13 | W30 | 06 16.3 | | 03 | 9 | 9 | E | RAMY | 5534 | Flare Associated |
| 18 | ASR | 1544E | 1740D | S18 | W90 | 06 11.8 | | | 9 | 9 | E | SVTO | | |
| 18 | ASR | 1803E | 0201D | S18 | E90 | 06 25.6 | | | 9 | 9 | E | HOLL | | |
| 18 | DSD | 1900 | 0201D | N20 | W60 | 06 14.2 | | 07 | 9 | 9 | E | HOLL | 5528 | Flare Associated |
| 18 | AFS | 2035E | 0211D | N16 | E38 | 06 21.7 | | 02 | 9 | 9 | E | PALE | 5543 | |
| 19 | DSD | 0113E | 0415D | N18 | W47 | 06 15.5 | | 03 | 9 | 9 | E | LEAR | 5536 | |
| 19 | AFS | 0118E | 0546D | N29 | W23 | 06 17.2 | | 02 | 9 | 9 | E | LEAR | 5537 | |
| 19 | ASR | 0122E | 0546D | S13 | E90 | 06 25.8 | | | 9 | 9 | E | LEAR | | |
| 19 | AFS | 0122E | 0447D | N17 | E23 | 06 20.8 | | 03 | 9 | 9 | E | PALE | 5543 | |
| 19 | AFS | 0122E | 0447D | N20 | W40 | 06 16.0 | | 04 | 9 | 9 | E | PALE | 5536 | |
| 19 | AFS | 0122E | 0447D | S13 | E36 | 06 21.8 | | 03 | 9 | 9 | E | PALE | 5551 | |
| 19 | ADF | 0130E | 0447D | N22 | E43 | 06 22.4 | 1 | 06 | 9 | 9 | E | PALE | 5544 | |
| 19 | APR | 0359E | 0707D | N05 | E90 | 06 25.9 | 1 | | | | C | ABST | | |
| 19 | BSL | 0521E | 0707D | N11 | W90 | 06 12.4 | 1 | | | | C | ABST | | |
| 19 | AFS | 0530E | 0546D | S21 | E05 | 06 19.6 | | 02 | 9 | 9 | E | LEAR | 5551 | |
| 19 | BSL | 0545E | 0707D | S17 | E90 | 06 26.1 | 1 | | | | C | ABST | | |
| 19 | ASR | 0558E | 1735D | S16 | E90 | 06 26.1 | | | 9 | 9 | E | SVTO | 5552 | |
| 19 | AFS | 0559E | 1735D | S11 | E34 | 06 21.8 | | 02 | 9 | 9 | E | SVTO | 5551 | |
| 19 | AFS | 0600E | 1735D | N27 | W27 | 06 17.1 | | 02 | 9 | 9 | E | SVTO | 5537 | |
| 19 | AFS | 0601E | 1735D | S19 | E31 | 06 21.6 | | 02 | 8 | 8 | E | SVTO | 5542 | |
| 19 | ADF | 0602E | 1735D | N20 | W51 | 06 15.3 | 1 | 08 | 9 | 9 | E | SVTO | 5528 | |
| 19 | BSL | 0707E | 0708D | S26 | E90 | 06 26.3 | 1 | | | | C | ABST | | |
| 19 | ADF | 0847E | 1735D | N16 | W46 | 06 15.9 | 1 | 06 | 9 | 9 | E | SVTO | 5536 | |
| 19 | BSL | 0929E | 0929D | N27 | W90 | 06 12.4 | 1- | | | | C | CATA | | |
| 19 | BSL | 0950E | 0950D | N56 | E90 | 06 27.2 | 1- | | | | C | CATA | | |
| 19 | BSL | 1042E | 1042D | S20 | E90 | 06 26.3 | 1- | | | | C | CATA | | |
| 19 | DSD | 1115E | 2129D | N15 | W64 | 06 14.6 | | 05 | 9 | 9 | E | RAMY | 5528 | |
| 19 | BSL | 1128E | 1144D | N05 | W90 | 06 12.7 | 2 | | | | C | CATA | | |
| 19 | ASR | 1142E | 1519D | N04 | W90 | 06 12.7 | | | 9 | 9 | E | SVTO | | |
| 19 | AFS | 1210E | 2129D | S14 | E30 | 06 21.8 | | 02 | 9 | 9 | E | RAMY | 5551 | |
| 19 | ASR | 1220E | 0155D | S17 | E90 | 06 26.3 | | | 9 | 9 | E | HOLL | 5522 | |
| 19 | ASR | 1220 | 1247 | S21 | E90 | 06 26.4 | | | 9 | 9 | E | RAMY | | |
| 19 | SDF | 1237E | 1500D | S33 | W23 | 06 17.7 | | 22 | 0 | 0 | E | RAMY | | |
| 19 | SDF | 1237E | 1700D | N40 | E11 | 06 20.4 | | 30 | 0 | 0 | E | RAMY | | |
| 19 | SDF | 1407E | 1710D | N39 | E05 | 06 20.0 | | 28 | 0 | 0 | E | HOLL | | |
| 19 | EPL | 1508E | 1756 | N86 | W24 | 06 17.4 | | | 9 | 9 | E | HOLL | 5528 | Flare Associated |
| 19 | DSD | 1710E | 0435D | N18 | W66 | 06 14.7 | | 12 | 9 | 9 | E | PALE | 5528 | |
| 19 | AFS | 1710E | 0435D | N21 | W51 | 06 15.8 | | 08 | 9 | 9 | E | PALE | 5536 | |
| 19 | AFS | 1710E | 0435D | S14 | E28 | 06 21.8 | | 04 | 9 | 9 | E | PALE | 5551 | |
| 19 | ASR | 1710E | 0435D | S23 | E90 | 06 26.6 | | | 9 | 9 | E | PALE | 5552 | |

ACTIVE PROMINENCES AND FILAMENTS

137
Jun 89

JUNE 1989

| Day | Event Type | Start (UT) | End (UT) | Lat | CMD | CHP Mo Day | Imp | Extent | Blue Shift (.1 A) | Red Shift (.1 A) | Obs Type | Sta | NOAA/ USAF Reg# | Remarks |
|-----|------------|------------|----------|-----|-----|------------|-----|--------|-------------------|------------------|----------|-----------|-----------------|---------------------|
| 19 | SDF | 1801E | 1801D | S45 | E22 | 06 21.6 | | 27 | 0 | 0 | E | PALE | | |
| 19 | ASR | 1804E | 1828D | N29 | E87 | 06 26.6 | | | 8 | 9 | E | RAMY | | Flare Associated |
| 19 | AFS | 2000E | 2129D | N29 | W35 | 06 17.1 | | 02 | 9 | 9 | E | RAMY 5537 | | |
| 19 | ASR | 2000E | 2129D | S16 | E90 | 06 26.6 | | | 9 | 9 | E | RAMY 5552 | | |
| 19 | BSL | 2300E | 2330 | S20 | E90 | 06 26.8 | 1 | | | | C | VORO | | |
| 19 | ASR | 2338 | 0003 | S20 | E90 | 06 26.9 | 1 | | | | C | VORO | | |
| 20 | BSL | 0012 | 0040 | N12 | W90 | 06 13.2 | 1 | | | | C | VORO | | |
| 20 | ADF | 0044 | 0200D | S38 | E90 | 06 27.3 | 1 | | | | C | VORO | | |
| 20 | BSL | 0150 | 0200D | N10 | W90 | 06 13.3 | 1 | | | | C | VORO | | |
| 20 | ASR | 0720E | 1508D | S18 | E90 | 06 27.1 | | | 9 | 9 | E | SVTO 5552 | | |
| 20 | ASR | 0721E | 0900D | N10 | W88 | 06 13.7 | | | 9 | 9 | E | SVTO 5528 | | |
| 20 | ADF | 0722E | 1508D | N09 | W68 | 06 15.2 | 1 | 18 | 9 | 9 | E | SVTO 5536 | | |
| 20 | ADF | 0723E | 1508D | N19 | W63 | 06 15.5 | 1 | 08 | 9 | 9 | E | SVTO 5528 | | |
| 20 | AFS | 0724E | 1508D | N27 | W40 | 06 17.2 | | 02 | 7 | 8 | E | SVTO 5537 | | |
| 20 | AFS | 0725E | 1508D | N21 | E23 | 06 22.1 | | 02 | 9 | 9 | E | SVTO 5544 | | |
| 20 | AFS | 0726E | 1508D | N12 | E21 | 06 21.9 | | 02 | 8 | 7 | E | SVTO 5551 | | |
| 20 | BSL | 0728E | 0731D | S17 | E90 | 06 27.1 | 1- | | | | C | CATA | | |
| 20 | BSL | 0855E | 0901D | N62 | W90 | 06 12.4 | 1- | | | | C | CATA | | |
| 20 | APR | 0859E | 1508D | N11 | W85 | 06 14.0 | 1 | | 9 | 9 | E | SVTO 5528 | | |
| 20 | BSL | 0910E | 0914 | N85 | W90 | 06 12.0 | 1- | | | | C | CATA | | |
| 20 | BSL | 0910E | 0914D | N28 | E90 | 06 27.4 | 1- | | | | C | CATA | | |
| 20 | BSL | 0910E | 0930 | S17 | E90 | 06 27.2 | 1- | | | | C | CATA | | |
| 20 | BSL | 0930 | 0936D | N21 | W90 | 06 13.5 | 1- | | | | C | CATA | | |
| 20 | BSL | 0930 | 0936D | S65 | E90 | 06 28.4 | 1- | | | | C | CATA | | |
| 20 | BSL | 0947E | 1001 | N62 | W90 | 06 12.4 | 1- | | | | C | CATA | | |
| 20 | BSL | 0947E | 1005D | S20 | E90 | 06 27.3 | 1 | | | | C | CATA | | |
| 20 | BSL | 0956 | 1001 | N78 | W90 | 06 12.1 | 1- | | | | C | CATA | | |
| 20 | ASR | 1049E | 2040D | S20 | E90 | 06 27.3 | | | 9 | 9 | E | RAMY | | |
| 20 | ADF | 1049E | 2137D | S23 | E69 | 06 25.8 | 1 | 05 | 9 | 9 | E | RAMY 5552 | | |
| 20 | BSL | 1101 | 1141 | S66 | E90 | 06 28.5 | 1 | | | | C | CATA | | |
| 20 | BSL | 1121 | 1130 | N40 | E90 | 06 27.8 | 1- | | | | C | CATA | | |
| 20 | BSL | 1121 | 1137 | N50 | W90 | 06 12.8 | 1- | | | | C | CATA | | |
| 20 | ASR | 1131E | 2041D | N17 | W82 | 06 14.2 | | | 9 | 9 | E | RAMY 5528 | | |
| 20 | BSL | 1137 | 1141D | N60 | W90 | 06 12.6 | 2 | | | | C | CATA | | |
| 20 | AFS | 1304E | 1508D | N28 | E83 | 06 27.0 | | 01 | 9 | 9 | E | SVTO 5555 | | |
| 20 | APR | 1430E | 1550D | N15 | W85 | 06 14.2 | 2 | | 9 | 9 | E | RAMY 5528 | | |
| 20 | LPS | 1459 | 1508D | N22 | W70 | 06 15.2 | | | 9 | 9 | E | SVTO 5528 | | Flare Associated |
| 20 | BSD | 1500 | 1648D | N23 | W69 | 06 15.3 | | 38 | 9 | 9 | E | RAMY 5528 | | Flare Associated |
| 20 | SDF | 1512E | 1308D | N21 | W17 | 06 19.3 | | 07 | 0 | 0 | E | RAMY | | |
| 20 | EPL | 1518E | 1756 | N24 | W86 | 06 14.0 | | | 9 | 9 | E | HOLL 5528 | | Flare Associated |
| 20 | DSD | 1601E | 2344D | N26 | E66 | 06 25.8 | 1 | 02 | 7 | 9 | E | HOLL 5533 | | |
| 20 | ASR | 1820E | 2344D | S23 | E89 | 06 27.6 | | | 9 | 9 | E | HOLL | | |
| 20 | APR | 1825E | 0021D | N17 | W90 | 06 13.9 | 2 | | 9 | 9 | E | HOLL 5528 | | |
| 20 | APR | 2222 | 0027D | N16 | W90 | 06 14.1 | 2 | | | | C | VORO | | |
| 20 | APR | 2230 | 0027D | S31 | W90 | 06 13.8 | 1 | | | | C | VORO | | |
| 20 | APR | 2230 | 0027D | S40 | W90 | 06 13.6 | 1 | | | | C | VORO | | |
| 20 | LPS | 2232E | 2242D | N18 | W90 | 06 14.1 | 1 | | 9 | 9 | E | HOLL 5528 | | Bright Emission 1/3 |
| 20 | LPS | 2233E | 2235D | N19 | W81 | 06 14.7 | | | 9 | 9 | E | PALE 5528 | | Flare Associated |
| 20 | APR | 2340E | 0453D | N17 | W90 | 06 14.1 | 1 | | 9 | 9 | E | LEAR 5528 | | |
| 20 | AFS | 2341E | 0453D | N25 | E69 | 06 26.3 | | 02 | 9 | 9 | E | LEAR 5555 | | |
| 21 | APR | 0054 | 0027D | S39 | E90 | 06 28.3 | 1 | | | | C | VORO | | |
| 21 | DSD | 0140 | 0453D | S16 | E55 | 06 25.2 | | 04 | 9 | 9 | E | LEAR 5552 | | |
| 21 | ASR | 0423E | 1740D | N14 | W90 | 06 14.4 | | | 9 | 9 | E | SVTO 5528 | | |
| 21 | BSD | 0447E | 0506 | S16 | E80 | 06 27.3 | | 04 | 9 | 9 | E | SVTO 5556 | | |
| 21 | ASR | 0450E | 1715D | N20 | E90 | 06 28.1 | | | 9 | 9 | E | SVTO | | |
| 21 | APR | 0458E | 0638D | N10 | W90 | 06 14.4 | 1 | | | | C | ABST | | |
| 21 | BSL | 0458E | 0638D | S13 | E90 | 06 28.0 | 1 | | | | C | ABST | | |
| 21 | APR | 0458E | 0638D | S30 | W90 | 06 14.1 | 1 | | | | C | ABST | | |
| 21 | AFS | 0526E | 1740D | N16 | W06 | 06 20.8 | | 03 | 9 | 9 | E | SVTO 5543 | | |
| 21 | BSL | 0631E | 0631D | N08 | E90 | 06 28.0 | 1- | | | | C | CATA | | |
| 21 | BSL | 0631E | 0631D | N57 | E90 | 06 29.1 | 1- | | | | C | CATA | | |
| 21 | AFS | 0813E | 1740D | N27 | E66 | 06 26.5 | | 02 | 9 | 9 | E | SVTO 5555 | | |
| 21 | APR | 0815E | 1740D | S27 | W90 | 06 14.3 | | | 9 | 9 | E | SVTO 5540 | | |
| 21 | ASR | 0832 | 1720D | S24 | W90 | 06 14.4 | | | 9 | 9 | E | SVTO 5540 | | |
| 21 | ASR | 0834E | 1720D | S19 | E90 | 06 28.2 | | | 9 | 9 | E | SVTO 5556 | | |
| 21 | BSL | 1016 | 1022 | N77 | W90 | 06 13.1 | 1- | | | | C | CATA | | |
| 21 | DSD | 1016E | 1720D | S19 | E78 | 06 27.4 | | 03 | 9 | 9 | E | SVTO 5556 | | |
| 21 | BSL | 1036 | 1045 | N37 | E90 | 06 28.7 | 1- | | | | C | CATA | | |

ACTIVE PROMINENCES AND FILAMENTS

JUNE 1989

| Day | Event Type | Start (UT) | End (UT) | Lat | Cmd | CMP No | Day | Imp | Extent | Blue Shift (.1 A) | Red Shift (.1 A) | Obs Type | Sta | NOAA/USAF Reg# | Remarks |
|-----|------------|------------|----------|-----|-----|--------|------|-----|--------|-------------------|------------------|----------|-----------|------------------|---------|
| 21 | BSL | 1131E | 1136 | N70 | E90 | 06 | 29.6 | 1- | | | | C | CATA | | |
| 21 | DSD | 1315E | 1707D | N25 | E59 | 06 | 26.1 | | 02 | 9 | 9 | E | RAMY 5555 | | |
| 21 | DSD | 1335E | 1707D | N18 | E48 | 06 | 25.2 | | 03 | 9 | 9 | E | RAMY 5552 | | |
| 21 | DSD | 1335E | 1707D | N19 | E57 | 06 | 25.9 | | 02 | 9 | 9 | E | RAMY 5552 | | |
| 21 | DSD | 1424E | 1955D | N26 | E57 | 06 | 26.0 | | 05 | 9 | 9 | E | HOLL 5555 | | |
| 21 | SDF | 1508E | 0900D | S48 | W22 | 06 | 19.8 | | 22 | 0 | 0 | E | SVTO | | |
| 21 | SDF | 1521E | 1433D | S08 | W30 | 06 | 19.4 | | 21 | 0 | 0 | E | HOLL | | |
| 21 | ASR | 1620E | 0149D | N14 | E90 | 06 | 28.5 | | | 9 | 9 | E | HOLL | | |
| 21 | ASR | 1620E | 0149D | N22 | E90 | 06 | 28.6 | | | 9 | 9 | E | HOLL | | |
| 21 | ASR | 1630E | 0149D | N19 | W90 | 06 | 14.8 | | | 9 | 9 | E | HOLL 5528 | | |
| 21 | CRN | 1630E | 0149D | N23 | W90 | 06 | 14.7 | | 06 | 6 | 8 | E | HOLL 5528 | | |
| 21 | ASR | 1659E | 1740D | N24 | E90 | 06 | 28.7 | | | 9 | 9 | E | SVTO | | |
| 21 | ASR | 1705E | 1707D | N22 | E90 | 06 | 28.6 | | | 9 | 9 | E | RAMY | | |
| 21 | DSD | 2327E | 0500D | N26 | E50 | 06 | 25.9 | | 04 | 7 | 7 | E | LEAR 5555 | | |
| 21 | AFS | 2327E | 0938D | N26 | E56 | 06 | 26.3 | | 02 | 9 | 9 | E | LEAR 5555 | | |
| 21 | ASR | 2329E | 0938D | N10 | E88 | 06 | 28.6 | | | 8 | 8 | E | LEAR 5558 | | |
| 21 | ASR | 2329E | 0938D | N21 | E85 | 06 | 28.5 | | | 7 | 7 | E | LEAR 5557 | | |
| 22 | APR | 0135E | 0200D | S13 | W90 | 06 | 15.3 | 1 | | | | C | VORO | | |
| 22 | APR | 0135E | 0200D | S37 | E90 | 06 | 29.3 | 1 | | | | C | VORO | | |
| 22 | BSL | 0156E | 0200D | N18 | W90 | 06 | 15.2 | 1 | | | | C | VORO | | |
| 22 | ASR | 0200E | 0938D | N18 | W90 | 06 | 15.2 | | | 9 | 9 | E | LEAR 5534 | | |
| 22 | AFS | 0330E | 0938D | S18 | E47 | 06 | 25.7 | | 03 | 9 | 9 | E | LEAR 5552 | | |
| 22 | ASR | 0445E | 0509D | N14 | E84 | 06 | 28.5 | | | 9 | 9 | E | PALE 5559 | | |
| 22 | BSL | 0453E | 0553D | N15 | E90 | 06 | 29.0 | 1 | | | | C | ABST | | |
| 22 | APR | 0553E | 0712D | S40 | E90 | 06 | 29.6 | 1 | | | | C | ABST | | |
| 22 | ASR | 0607E | 1740D | N14 | W76 | 06 | 16.5 | | | 9 | 9 | E | SVTO 5534 | | |
| 22 | BSL | 0656 | 0705 | N17 | E90 | 06 | 29.1 | 1- | | | | C | CATA | | |
| 22 | BSL | 0656 | 0710 | N10 | E90 | 06 | 29.0 | 1- | | | | C | CATA | | |
| 22 | BSL | 0705 | 0720D | N15 | E90 | 06 | 29.1 | 1- | | | | C | CATA | | |
| 22 | BSL | 0756E | 0802 | N23 | E90 | 06 | 29.3 | 1- | | | | C | CATA | | |
| 22 | BSL | 0827 | 0835D | S72 | E90 | 06 | 30.6 | 1- | | | | C | CATA | | |
| 22 | BSL | 0946 | 1005 | S49 | W90 | 06 | 14.8 | 1- | | | | C | CATA | | |
| 22 | BSL | 0951 | 1001 | S08 | W90 | 06 | 15.7 | 1- | | | | C | CATA | | |
| 22 | BSL | 1021E | 1050D | S08 | W90 | 06 | 15.7 | 1 | | | | C | CATA | | |
| 22 | BSL | 1100E | 1114 | S07 | W90 | 06 | 15.7 | 1- | | | | C | CATA | | |
| 22 | DSD | 1120E | 1953D | S15 | E38 | 06 | 25.3 | | 03 | 9 | 9 | E | RAMY 5552 | | |
| 22 | BSL | 1121 | 1125D | N55 | E90 | 06 | 30.2 | 1- | | | | C | CATA | | |
| 22 | BSL | 1125 | 1125D | S07 | W90 | 06 | 15.7 | 1- | | | | C | CATA | | |
| 22 | BSL | 1137E | 1140D | S07 | W90 | 06 | 15.7 | 1- | | | | C | CATA | | |
| 22 | BSL | 1137E | 1140D | S63 | E90 | 06 | 30.5 | 1- | | | | C | CATA | | |
| 22 | AFS | 1248E | 0151D | N26 | E49 | 06 | 26.3 | | 04 | 9 | 9 | E | HOLL 5555 | | |
| 22 | DSD | 1248E | 1339D | N27 | E58 | 06 | 27.0 | | 06 | 9 | 9 | E | HOLL 5555 | Flare Associated | |
| 22 | APR | 1307E | 1740D | N23 | W90 | 06 | 15.6 | 1 | | 9 | 9 | E | SVTO | | |
| 22 | AFS | 1316E | 1740D | S22 | W74 | 06 | 16.9 | | 01 | 9 | 9 | E | SVTO 5533 | | |
| 22 | ADF | 1329E | 1740D | N24 | E49 | 06 | 26.3 | 1 | 06 | 9 | 9 | E | SVTO 5555 | | |
| 22 | ADF | 1329E | 1740D | N26 | E53 | 06 | 26.7 | 1 | 05 | 9 | 9 | E | SVTO 5555 | | |
| 22 | AFS | 1329E | 1740D | N28 | E46 | 06 | 26.1 | | 03 | 9 | 9 | E | SVTO 5555 | | |
| 22 | APR | 1344E | 1740D | S24 | E90 | 06 | 29.5 | 1 | | 9 | 9 | E | SVTO | | |
| 22 | DSD | 1355E | 1740D | S11 | W07 | 06 | 22.0 | 1 | 04 | 9 | 9 | E | SVTO 5551 | | |
| 22 | AFS | 1401E | 1740D | S14 | W12 | 06 | 21.7 | | 02 | 9 | 9 | E | SVTO 5551 | | |
| 22 | ADF | 1421E | 1740D | S17 | E42 | 06 | 25.8 | 1 | 05 | 9 | 9 | E | SVTO 5552 | | |
| 22 | AFS | 1421E | 1740D | S19 | E40 | 06 | 25.6 | | 01 | 9 | 9 | E | SVTO 5552 | | |
| 22 | DSD | 1525E | 1953D | N28 | E52 | 06 | 26.7 | | 08 | 9 | 9 | E | RAMY 5555 | Flare Associated | |
| 22 | DSD | 1751E | 0438D | N23 | E48 | 06 | 26.4 | | 05 | 9 | 9 | E | PALE 5555 | | |
| 22 | ADF | 1751E | 0438D | S18 | W43 | 06 | 19.5 | | 05 | 9 | 9 | E | PALE 5550 | | |
| 22 | DSD | 1751E | 0438D | S20 | E46 | 06 | 26.3 | | 04 | 9 | 9 | E | PALE 5552 | | |
| 22 | ADF | 1751E | 0438D | S21 | E37 | 06 | 25.6 | | 05 | 9 | 9 | E | PALE 5552 | | |
| 22 | APR | 2133 | 0200D | S34 | E90 | 06 | 30.1 | 1 | | | | C | VORO | | |
| 22 | BSL | 2133 | 2152 | S17 | W90 | 06 | 16.0 | 1 | | | | C | VORO | | |
| 22 | APR | 2210 | 0200D | S46 | E90 | 06 | 30.4 | 1 | | | | C | VORO | | |
| 22 | BSL | 2230 | 2348 | S13 | W90 | 06 | 16.1 | 1 | | | | C | VORO | | |
| 22 | APR | 2330 | 0200D | S31 | W90 | 06 | 15.9 | 1 | | | | C | VORO | | |
| 23 | APR | 0000 | 0200D | S45 | W90 | 06 | 15.5 | 1 | | | | C | VORO | | |
| 23 | BSL | 0050 | 0112 | S40 | E90 | 06 | 30.4 | 1 | | | | C | VORO | | |
| 23 | APR | 0512E | 0642D | S34 | E90 | 06 | 30.4 | 1 | | | | C | ABST | | |
| 23 | DSD | 0557E | 0935D | S15 | E30 | 06 | 25.5 | | 06 | 9 | 9 | E | LEAR 5552 | | |
| 23 | BSL | 0613E | 0648D | N25 | W90 | 06 | 16.3 | 1 | | | | C | ABST | | |
| 23 | BSL | 0725E | 0755D | S39 | E90 | 06 | 30.6 | 1 | | | | P | BUCH | | |

ACTIVE PROMINENCES AND FILAMENTS

139
Jun 89

JUNE 1989

| Day | Event Type | Start (UT) | End (UT) | Lat | CMD | CMP Mo Day | Imp | Extent | Blue Shift (.1 A) | Red Shift (.1 A) | Obs Type | Sta | NOAA/USAF Reg# | Remarks |
|-----|------------|------------|----------|-----|-----|------------|-----|--------|-------------------|------------------|----------|-----------|----------------|---------|
| 23 | DSD | 0729 | 0750D | S13 | E28 | 06 25.4 | 1 | | | | C | CATA | | |
| 23 | BSL | 0729 | 0750D | S43 | E90 | 06 30.7 | 1- | | | | C | CATA | | |
| 23 | BSL | 0838 | 0846 | N39 | E90 | 06 30.7 | 1- | | | | C | CATA | | |
| 23 | BSL | 0846 | 0918 | S19 | W90 | 06 16.5 | 1- | | | | C | CATA | | |
| 23 | EPL | 0918 | 1025D | S48 | E90 | 06 30.9 | 2 | | | | C | CATA | | |
| 23 | DSD | 0918E | 1417D | S14 | E27 | 06 25.4 | | 04 | 9 | 9 | E | SVTO 5552 | | |
| 23 | DSD | 0925 | 0933 | N30 | E45 | 06 26.9 | 1 | | | | C | CATA | | |
| 23 | BSL | 0933 | 0945 | N78 | E90 | 07 1.7 | 1- | | | | C | CATA | | |
| 23 | DSD | 0937E | 1417D | N29 | E37 | 06 26.3 | | 07 | 9 | 9 | E | SVTO 5555 | | |
| 23 | ASR | 1030E | 1656D | S25 | W90 | 06 16.5 | | | 9 | 9 | E | SVTO 5533 | | |
| 23 | BSL | 1048E | 1055 | S71 | E90 | 07 1.6 | 1- | | | | C | CATA | | |
| 23 | BSL | 1116 | 1125 | S86 | E90 | 07 1.9 | 1- | | | | C | CATA | | |
| 23 | BSL | 1121 | 1135 | S81 | W90 | 06 15.1 | 1- | | | | C | CATA | | |
| 23 | AFS | 1144E | 1741D | N27 | E52 | 06 27.5 | | 02 | 9 | 9 | E | SVTO 5564 | | |
| 23 | DSD | 1208E | 1650D | S15 | E67 | 06 28.6 | | 02 | 9 | 9 | E | RAMY 5563 | | |
| 23 | AFS | 1208E | 2001D | N26 | E54 | 06 27.7 | | 02 | 9 | 9 | E | RAMY | | |
| 23 | AFS | 1210E | 1741D | S19 | W27 | 06 21.4 | | 02 | 9 | 9 | E | SVTO 5544 | | |
| 23 | DSD | 1217E | 1953D | N29 | E41 | 06 26.7 | | 04 | 9 | 9 | E | RAMY 5555 | | |
| 23 | DSD | 1217E | 2001D | N27 | E32 | 06 26.0 | | 03 | 9 | 9 | E | RAMY 5555 | | |
| 23 | ASR | 1232E | 1958D | S17 | W90 | 06 16.7 | | | 9 | 9 | E | RAMY 5533 | | |
| 23 | AFS | 1240E | 2001D | N23 | W18 | 06 22.1 | | 02 | 9 | 9 | E | RAMY 5544 | | |
| 23 | ASR | 1249E | 1430D | N26 | W87 | 06 16.8 | | | 9 | 9 | E | RAMY 5537 | | |
| 23 | ASR | 1250E | 1654D | N21 | W90 | 06 16.6 | | | 9 | 9 | E | SVTO 5534 | | |
| 23 | APR | 1258E | 2001D | S32 | W90 | 06 16.4 | 2 | | 9 | 9 | E | RAMY | | |
| 23 | APR | 1306E | 1741D | S36 | W90 | 06 16.3 | 2 | | 9 | 9 | E | SVTO | | |
| 23 | DSD | 1315E | 1527D | N27 | E53 | 06 27.7 | | 02 | 9 | 9 | E | RAMY | | |
| 23 | ADF | 1405E | 2103D | S10 | E35 | 06 26.2 | 1 | 10 | 9 | 9 | E | HOLL 5556 | | |
| 23 | AFS | 1409E | 0150D | N25 | E51 | 06 27.5 | | 02 | 9 | 9 | E | HOLL | | |
| 23 | AFS | 1508E | 1741D | S12 | E65 | 06 28.5 | | 02 | 9 | 9 | E | SVTO 5563 | | |
| 23 | DSD | 1509 | 1603D | S20 | W33 | 06 21.1 | | 02 | 9 | 9 | E | SVTO 5542 | | |
| 23 | DSD | 1520E | 0150D | S18 | W34 | 06 21.0 | | 03 | 9 | 9 | E | HOLL 5542 | | |
| 23 | ADF | 1630E | 1741D | N29 | E32 | 06 26.2 | 2 | 09 | 9 | 9 | E | SVTO 5555 | | |
| 23 | AFS | 1650E | 2001D | S16 | E65 | 06 28.6 | | 03 | 9 | 9 | E | RAMY 5563 | | |
| 23 | AFS | 1736E | 2119D | N23 | W20 | 06 22.2 | | 04 | 9 | 6 | E | PALE 5544 | | |
| 23 | DSD | 1736E | 2119D | S16 | W34 | 06 21.1 | | 03 | 9 | 9 | E | PALE 5542 | | |
| 23 | AFS | 1736E | 2119D | S17 | E65 | 06 28.7 | | 04 | 9 | 9 | E | PALE 5563 | | |
| 23 | ADF | 1736E | 2119D | S17 | W57 | 06 19.4 | | 08 | 9 | 9 | E | PALE 5550 | | |
| 23 | DSD | 1736E | 2119D | S21 | E26 | 06 25.7 | | 03 | 9 | 9 | E | PALE 5552 | | |
| 23 | DSD | 1736E | 2119D | S23 | E54 | 06 27.9 | | 07 | 9 | 9 | E | PALE 5561 | | |
| 23 | SSB | 2105 | | 143 | W70 | 06 27.8 | | | 0 | 0 | E | HOLL | | |
| 23 | APR | 2117E | 0200D | S35 | E90 | 07 1.1 | 1 | | | | C | VORO | | |
| 23 | ADF | 2240 | 0200D | S11 | E31 | 06 26.3 | 1 | | | | C | VORO | | |
| 23 | APR | 2240 | 0200D | S48 | E90 | 07 1.5 | 1 | | | | C | VORO | | |
| 24 | AFS | 0555E | 0930D | S15 | E57 | 06 28.6 | | 02 | 9 | 9 | E | LEAR 5563 | | |
| 24 | ADF | 0610E | 0930D | N26 | E31 | 06 26.7 | 1 | 17 | 9 | 9 | E | LEAR 5555 | | |
| 24 | DSD | 0624E | 0710D | S15 | E13 | 06 25.2 | | 03 | 9 | 9 | E | LEAR 5552 | | |
| 24 | DSD | 0708E | 1034D | S15 | E13 | 06 25.3 | | 05 | 9 | 9 | E | SVTO 5552 | | |
| 24 | BSL | 0715 | 0715 | N71 | E90 | 07 2.5 | 1- | | | | C | CATA | | |
| 24 | BSL | 0751 | 0755 | N87 | E90 | 07 2.7 | 1- | | | | C | CATA | | |
| 24 | BSL | 0751 | 0801 | N84 | E90 | 07 2.7 | 1- | | | | C | CATA | | |
| 24 | BSL | 0755 | 0801 | N58 | W90 | 06 16.5 | 1- | | | | C | CATA | | |
| 24 | BSL | 0755 | 0801 | N74 | W90 | 06 16.1 | 1- | | | | C | CATA | | |
| 24 | BSL | 0811 | 0825 | N10 | E90 | 07 1.1 | 1 | | | | C | CATA | | |
| 24 | BSL | 0821 | 0843 | N71 | E90 | 07 2.5 | 1- | | | | C | CATA | | |
| 24 | BSL | 0825 | 0843 | N73 | W90 | 06 16.1 | 1- | | | | C | CATA | | |
| 24 | BSL | 0830 | 0843 | N15 | E90 | 07 1.2 | 1 | | | | C | CATA | | |
| 24 | BSL | 0843 | 0854 | N17 | E90 | 07 1.2 | 1 | | | | C | CATA | | |
| 24 | BSL | 0854 | 0900 | N84 | E90 | 07 2.8 | 1- | | | | C | CATA | | |
| 24 | BSL | 0854 | 0905 | S27 | W90 | 06 17.3 | 1 | | | | C | CATA | | |
| 24 | BSL | 0919E | 0926 | S70 | W90 | 06 16.2 | 1- | | | | C | CATA | | |
| 24 | BSL | 0919E | 0940 | S28 | W90 | 06 17.3 | 1 | | | | C | CATA | | |
| 24 | BSL | 0926 | 0940 | N34 | E90 | 07 1.6 | 1- | | | | C | CATA | | |
| 24 | BSL | 0930 | 0940 | N27 | W90 | 06 17.4 | 1- | | | | C | CATA | | |
| 24 | BSL | 0936 | 0945 | N57 | E90 | 07 2.2 | 1- | | | | C | CATA | | |
| 24 | BSL | 0950 | 1000 | N64 | E90 | 07 2.4 | 1- | | | | C | CATA | | |
| 24 | AFS | 1033E | 1751D | N15 | E31 | 06 26.8 | | 02 | 9 | 9 | E | SVTO | | |
| 24 | BSL | 1121E | 1125 | S80 | E90 | 07 2.8 | 1- | | | | C | CATA | | |
| 24 | BSL | 1121E | 1140D | N07 | E90 | 07 1.2 | 1- | | | | C | CATA | | |
| 24 | ADF | 1130E | 1751D | N28 | E31 | 06 26.9 | 2 | 07 | 9 | 9 | E | SVTO 5555 | | |

ACTIVE PROMINENCES AND FILAMENTS

JUNE 1989

| Day | Event Type | Start (UT) | End (UT) | Lat | CMD | CMP No | Day | Imp | Extent | Blue Shift (.1 A) | Red Shift (.1 A) | Obs Type | Sta | NOAA/USAF Reg# | Remarks |
|-----|------------|------------|----------|-----|-----|--------|------|-----|--------|-------------------|------------------|----------|------|----------------|---------|
| 24 | AFS | 1130E | 1751D | S13 | E54 | 06 | 28.5 | | 02 | 9 | 9 | E | SVTO | 5563 | |
| 24 | AFS | 1130E | 1751D | S13 | W37 | 06 | 21.7 | | 02 | 8 | 8 | E | SVTO | 5551 | |
| 24 | SSB | 1148 | | 429 | W00 | 06 | 22.3 | | | 0 | 0 | E | SVTO | | |
| 24 | AFS | 1440E | 2148D | S15 | E53 | 06 | 28.6 | | 02 | 9 | 9 | E | RAMY | 5563 | |
| 24 | DSD | 1618E | 2148D | S18 | E10 | 06 | 25.4 | | 12 | 9 | 9 | E | RAMY | 5552 | |
| 24 | AFS | 1630E | 0200D | N26 | E23 | 06 | 26.5 | | 02 | 9 | 9 | E | HOLL | 5555 | |
| 24 | AFS | 1638E | 0200D | S20 | E20 | 06 | 26.2 | | 02 | 7 | 5 | E | HOLL | 5552 | |
| 24 | DSD | 1720E | 0422D | S13 | E08 | 06 | 25.3 | | 04 | 9 | 9 | E | PALE | 5552 | |
| 24 | AFS | 1720E | 0422D | S16 | W50 | 06 | 20.9 | | 03 | 9 | 9 | E | PALE | 5542 | |
| 24 | DSD | 2350E | 0929D | S13 | E03 | 06 | 25.2 | | 03 | 9 | 9 | E | LEAR | 5552 | |
| 25 | AFS | 0108E | 0200D | N15 | E07 | 06 | 25.6 | | 02 | 9 | 9 | E | HOLL | 5566 | |
| 25 | APR | 0458E | 0645D | N42 | W90 | 06 | 17.8 | 1 | | | | C | ABST | | |
| 25 | AFS | 0537E | 0929D | N11 | E37 | 06 | 28.0 | | 02 | 8 | 8 | E | LEAR | 5558 | |
| 25 | AFS | 0747E | 0929D | N14 | E03 | 06 | 25.5 | | 02 | 9 | 8 | E | LEAR | 5566 | |
| 25 | DSD | 0803 | 0815 | N28 | E14 | 06 | 26.4 | 1 | | | | V | KHAR | | |
| 25 | ADF | 0805 | 0856 | S15 | W00 | 06 | 25.3 | 1 | | | | V | KHAR | | |
| 25 | AFS | 0850E | 1227D | N15 | E02 | 06 | 25.5 | | 02 | 9 | 9 | E | SVTO | 5566 | |
| 25 | AFS | 0911E | 1243D | S19 | E13 | 06 | 26.4 | | 03 | 9 | 9 | E | SVTO | 5556 | |
| 25 | BSL | 0916 | 0925 | N15 | E90 | 07 | 2.2 | 1- | | | | C | CATA | | |
| 25 | BSL | 1025 | 1035 | S71 | E90 | 07 | 3.6 | 1- | | | | C | CATA | | |
| 25 | BSL | 1119 | 1130 | N29 | W90 | 06 | 18.4 | 1 | | | | C | CATA | | |
| 25 | SSB | 1129 | | 422 | W09 | 06 | 23.8 | | | 0 | 0 | E | RAMY | | |
| 25 | AFS | 1955E | 0454D | N16 | W03 | 06 | 25.6 | | 02 | 8 | 8 | E | PALE | 5567 | |
| 25 | AFS | 1955E | 0454D | N21 | E37 | 06 | 28.7 | | 02 | 9 | 9 | E | PALE | 5565 | |
| 25 | DSD | 1955E | 0454D | S18 | E34 | 06 | 28.4 | | 03 | 9 | 9 | E | PALE | 5563 | |
| 25 | APR | 2142 | 0200D | N62 | W90 | 06 | 17.9 | 1 | | | | C | VORO | | |
| 25 | APR | 2142 | 0200D | S30 | E90 | 07 | 3.0 | 1 | | | | C | VORO | | |
| 25 | SSB | 2148 | | 420 | W14 | 06 | 24.4 | | | 0 | 0 | E | PALE | | |
| 25 | APR | 2242 | 0200D | N03 | W23 | 06 | 24.2 | 1 | | | | C | VORO | | |
| 25 | APR | 2248 | 0200D | N40 | W90 | 06 | 18.6 | 1 | | | | C | VORO | | |
| 25 | APR | 2248 | 0200D | S23 | E90 | 07 | 2.9 | 1 | | | | C | VORO | | |
| 25 | AFS | 2345E | 0929D | S18 | E32 | 06 | 28.4 | | 04 | 9 | 9 | E | LEAR | 5563 | |
| 26 | SSB | 0057 | | 423 | W19 | 06 | 24.3 | | | 0 | 0 | E | LEAR | | |
| 26 | AFS | 0640E | 1737D | S18 | E26 | 06 | 28.2 | | 03 | 9 | 9 | E | SVTO | 5563 | |
| 26 | BSL | 0720 | 0725 | N36 | E90 | 07 | 3.5 | 1- | | | | C | CATA | | |
| 26 | BSL | 0725 | 0730D | N80 | W90 | 06 | 17.9 | 1- | | | | C | CATA | | |
| 26 | BSL | 0725 | 0730D | S72 | E90 | 07 | 4.5 | 1- | | | | C | CATA | | |
| 26 | SSB | 0725 | | 423 | W22 | 06 | 24.5 | | | 0 | 0 | E | SVTO | | |
| 26 | AFS | 0800E | 0929D | N10 | W07 | 06 | 25.8 | | 02 | 8 | 7 | E | LEAR | | |
| 26 | AFS | 0800E | 0929D | S29 | W34 | 06 | 23.7 | | 02 | 9 | 9 | E | LEAR | | |
| 26 | DSD | 0820E | 0850 | N31 | E01 | 06 | 26.4 | 1 | | | | C | CATA | | |
| 26 | AFS | 0844E | 1737D | N10 | W07 | 06 | 25.8 | | 03 | 6 | 7 | E | SVTO | | |
| 26 | AFS | 0844E | 1737D | S30 | W32 | 06 | 23.8 | | 03 | 9 | 9 | E | SVTO | | |
| 26 | BSL | 0925E | 0956 | N29 | W90 | 06 | 19.3 | 1- | | | | C | CATA | | |
| 26 | BSL | 0956 | 1005 | S76 | E90 | 07 | 4.7 | 1- | | | | C | CATA | | |
| 26 | ADF | 1009E | 1737D | N26 | E05 | 06 | 26.8 | 1 | 21 | 9 | 9 | E | SVTO | 5555 | |
| 26 | BSL | 1015 | 1037 | N18 | W90 | 06 | 19.6 | 1- | | | | C | CATA | | |
| 26 | DSD | 1022E | 1041 | N29 | W01 | 06 | 26.3 | | 06 | 9 | 9 | E | SVTO | 5555 | |
| 26 | DSD | 1025 | 1030D | N31 | E01 | 06 | 26.5 | 1 | | | | C | CATA | | |
| 26 | AFS | 1103E | 1737D | N20 | E34 | 06 | 29.1 | | 04 | 9 | 9 | E | SVTO | 5565 | |
| 26 | SDF | 1141E | 0630D | N24 | E40 | 06 | 29.6 | 1 | | | | C | CATA | | |
| 26 | SSB | 1148 | | 420 | W22 | 06 | 24.9 | | | 0 | 0 | E | RAMY | | |
| 26 | DSD | 1154E | 1310D | S17 | E26 | 06 | 28.5 | | 03 | 9 | 9 | E | RAMY | 5563 | |
| 26 | DSD | 1210E | 1311D | N18 | E38 | 06 | 29.4 | | 03 | 9 | 9 | E | RAMY | 5565 | |
| 26 | DSD | 1210E | 1311D | N19 | E35 | 06 | 29.2 | | 02 | 9 | 9 | E | RAMY | 5565 | |
| 26 | AFS | 1356E | 1852D | S29 | W36 | 06 | 23.7 | | 02 | 9 | 9 | E | RAMY | | |
| 26 | AFS | 1358E | 1852D | S16 | E26 | 06 | 28.5 | | 02 | 6 | 4 | E | RAMY | 5563 | |
| 26 | AFS | 1707E | 2118D | N20 | E30 | 06 | 29.0 | | 03 | 9 | 9 | E | PALE | 5569 | |
| 26 | ADF | 1707E | 2118D | S15 | W11 | 06 | 25.9 | 1 | 06 | 9 | 9 | E | PALE | 5552 | |
| 26 | ADF | 1707E | 2118D | S18 | E15 | 06 | 27.8 | 1 | 06 | 9 | 9 | E | PALE | 5563 | |
| 26 | AFS | 1707E | 2118D | S28 | W37 | 06 | 23.8 | | 02 | 9 | 9 | E | PALE | 5568 | |
| 26 | DSD | 2056 | 2127 | N30 | W02 | 06 | 26.7 | | 02 | 9 | 9 | E | HOLL | 5555 | |
| 26 | ADF | 2056E | 0207D | N26 | E00 | 06 | 26.9 | 1 | 14 | 9 | 9 | E | HOLL | 5555 | |
| 26 | DSD | 2056E | 0207D | N29 | W07 | 06 | 26.3 | | 03 | 9 | 9 | E | HOLL | 5555 | |
| 26 | AFS | 2140E | 0207D | S22 | E16 | 06 | 28.1 | | 03 | 9 | 9 | E | HOLL | 5563 | |
| 26 | ADF | 2144E | 0207D | N28 | E21 | 06 | 28.5 | 1 | 05 | 9 | 9 | E | HOLL | 5569 | |
| 26 | SSB | 2205 | | 405 | W12 | 06 | 26.5 | | | 0 | 0 | E | HOLL | | 422 W29 |
| 26 | ADF | 2355E | 0207D | N35 | W63 | 06 | 21.9 | 1 | 10 | 9 | 9 | E | HOLL | | |

ACTIVE PROMINENCES AND FILAMENTS

141
Jun 89

JUNE 1989

| Day | Event Type | Start (UT) | End (UT) | Lat | CMD | CMP Mo | Day | Imp | Extent | Blue Shift (.1 A) | Red Shift (.1 A) | Obs Type | NOAA/USAF Reg# | Remarks |
|-----|------------|------------|----------|-----|-----|--------|------|-----|--------|-------------------|------------------|----------|----------------|------------------|
| 27 | AFS | 0200E | 0747D | N20 | E23 | 06 | 28.8 | | 03 | 9 | 4 | E | LEAR 5569 | |
| 27 | AFS | 0330E | 0747D | S17 | E18 | 06 | 28.5 | | 03 | 7 | 7 | E | LEAR 5563 | |
| 27 | AFS | 0446E | 1524D | N21 | E22 | 06 | 28.9 | | 04 | 9 | 9 | E | SVTO 5569 | |
| 27 | DSD | 0500E | 1524D | N21 | W67 | 06 | 22.1 | | 03 | 9 | 9 | E | SVTO 5544 | |
| 27 | SSB | 0519 | | 423 | W34 | 06 | 25.4 | | | 0 | 0 | E | LEAR | |
| 27 | ASR | 0523E | 1158D | S19 | W85 | 06 | 20.7 | | | 6 | 9 | E | SVTO 5542 | |
| 27 | EPL | 0651 | 0726 | N25 | W90 | 06 | 20.3 | 2 | | | | C | CATA | |
| 27 | ADF | 0655E | 0745 | N02 | W33 | 06 | 24.8 | 1 | | | | V | KHAR | |
| 27 | ADF | 0748 | 0805 | S26 | E26 | 06 | 29.3 | 1 | | | | V | KHAR | |
| 27 | BSL | 0852E | 0855 | N24 | E90 | 07 | 4.3 | 1- | | | | C | CATA | |
| 27 | BSL | 0852E | 0902 | S83 | E90 | 07 | 5.7 | 1- | | | | C | CATA | |
| 27 | BSL | 0852E | 0910D | N44 | E90 | 07 | 4.8 | 1- | | | | C | CATA | |
| 27 | BSL | 0905 | 0910D | S16 | E90 | 07 | 4.2 | 1- | | | | C | CATA | |
| 27 | BSL | 0923E | 0955D | N41 | E90 | 07 | 4.7 | 1- | | | | C | CATA | |
| 27 | BSL | 0942 | 0946 | N87 | W90 | 06 | 19.0 | 1- | | | | C | CATA | |
| 27 | BSL | 0954 | 0955D | N61 | W90 | 06 | 19.5 | 1- | | | | C | CATA | |
| 27 | SSB | 1122 | | 420 | W35 | 06 | 25.9 | | | 0 | 0 | E | RAMY | |
| 27 | SSB | 1135 | | 423 | W37 | 06 | 25.6 | | | 0 | 0 | E | SVTO | |
| 27 | AFS | 1227E | 1550D | S30 | W48 | 06 | 23.7 | | 02 | 5 | 6 | E | RAMY 5568 | |
| 27 | SSB | 1321 | | 408 | W23 | 06 | 26.9 | | | 0 | 0 | E | HOLL | 423 W38 |
| 27 | ADF | 1408E | 0145D | N26 | W08 | 06 | 27.0 | 1 | 12 | 8 | 8 | E | HOLL 5555 | |
| 27 | AFS | 1416E | 0145D | S12 | E16 | 06 | 28.8 | | 04 | 7 | 6 | E | HOLL 5563 | |
| 27 | ADF | 1615E | 2210D | N29 | W08 | 06 | 27.0 | 2 | 10 | 9 | 9 | E | RAMY 5555 | |
| 27 | AFS | 1717E | 2047D | N20 | E18 | 06 | 29.1 | | 05 | 9 | 9 | E | PALE 5569 | |
| 27 | ADF | 1717E | 2047D | N28 | W09 | 06 | 27.0 | | 09 | 9 | 9 | E | PALE 5555 | |
| 27 | AFS | 1717E | 2047D | S16 | E12 | 06 | 28.6 | | 04 | 9 | 9 | E | PALE 5563 | |
| 28 | ASR | 0043E | 0831D | S18 | W90 | 06 | 21.2 | | | 7 | 7 | E | LEAR 5542 | |
| 28 | SSB | 0058 | | 418 | W40 | 06 | 26.6 | | | 0 | 0 | E | PALE | |
| 28 | ASR | 0115E | 0145D | S21 | W90 | 06 | 21.1 | | | 9 | 9 | E | HOLL 5542 | |
| 28 | SSB | 0151 | | 421 | W43 | 06 | 26.3 | | | 0 | 0 | E | LEAR | |
| 28 | AFR | 0427E | 0706D | N20 | W15 | 06 | 27.0 | 1 | | | | C | ABST | |
| 28 | BSL | 0440 | 0507D | N20 | W90 | 06 | 21.3 | 1 | | | | C | ABST | |
| 28 | ASR | 0445E | 0515 | N18 | W85 | 06 | 21.7 | | | 9 | 9 | E | SVTO 5544 | Flare Associated |
| 28 | ADF | 0450E | 1738D | N26 | W16 | 06 | 26.9 | 1 | 10 | 9 | 9 | E | SVTO 5555 | |
| 28 | AFS | 0517E | 1738D | N19 | E11 | 06 | 29.0 | | 03 | 9 | 9 | E | SVTO 5569 | |
| 28 | SSB | 0520 | | 425 | W49 | 06 | 26.1 | | | 0 | 0 | E | SVTO | |
| 28 | BSL | 0522E | 0707D | N46 | W90 | 06 | 20.7 | 1 | | | | C | ABST | |
| 28 | AFS | 0523E | 1738D | S15 | E04 | 06 | 28.5 | | 02 | 9 | 9 | E | SVTO 5563 | |
| 28 | BSL | 0655E | 0705D | S14 | E90 | 07 | 5.1 | 1- | | | | C | CATA | |
| 28 | AFS | 0748E | 0831D | S26 | W26 | 06 | 26.3 | | 03 | 9 | 9 | E | LEAR 5555 | |
| 28 | ADF | 0755E | 0825 | N22 | E80 | 07 | 4.5 | 1 | | | | V | KHAR | |
| 28 | BSL | 0835E | 0848 | N62 | W90 | 06 | 20.4 | 1- | | | | C | CATA | |
| 28 | ASR | 1017E | 1521D | N18 | W90 | 06 | 21.6 | | | 9 | 9 | E | SVTO 5544 | |
| 28 | BSL | 1050 | 1058 | N80 | W90 | 06 | 20.1 | 1- | | | | C | CATA | |
| 28 | ADF | 1050E | 2142D | N27 | W23 | 06 | 26.6 | 2 | 08 | 9 | 9 | E | RAMY 5555 | |
| 28 | ASR | 1105E | 1320D | S18 | W78 | 06 | 22.5 | | | 9 | 9 | E | RAMY 5551 | |
| 28 | BSL | 1106 | 1117 | N74 | E90 | 07 | 6.7 | 1- | | | | C | CATA | |
| 28 | BSL | 1127 | 1141D | N77 | W90 | 06 | 20.2 | 1- | | | | C | CATA | |
| 28 | BSL | 1135 | 1141 | N72 | E90 | 07 | 6.7 | 1- | | | | C | CATA | |
| 28 | DSD | 1445E | 2020D | N27 | W26 | 06 | 26.6 | | 02 | 9 | 9 | E | RAMY 5555 | |
| 28 | DSD | 1450E | 2020D | N26 | W29 | 06 | 26.4 | | 02 | 9 | 9 | E | RAMY 5555 | |
| 28 | AFS | 1548E | 1738D | N23 | E41 | 07 | 1.8 | | 01 | 7 | 7 | E | SVTO | |
| 28 | SSB | 1605 | | 423 | W53 | 06 | 26.7 | | | 0 | 0 | E | HOLL | |
| 28 | ADF | 1650E | 0237D | N37 | W21 | 06 | 27.0 | | 07 | 9 | 9 | E | PALE 5555 | |
| 28 | SSB | 1658 | | 422 | W52 | 06 | 26.8 | | | 0 | 0 | E | PALE | |
| 28 | ADF | 1724E | 0449D | N11 | W11 | 06 | 27.9 | | 04 | 9 | 9 | E | PALE 5558 | |
| 28 | AFS | 1845E | 0143D | N27 | W26 | 06 | 26.7 | | 01 | 9 | 9 | E | HOLL 5555 | |
| 28 | AFS | 1905E | 0143D | N19 | E07 | 06 | 29.3 | | 02 | 9 | 9 | E | HOLL 5569 | |
| 28 | AFS | 2032E | 0449D | S14 | W01 | 06 | 28.8 | | 04 | 9 | 9 | E | PALE 5563 | |
| 29 | MDP | 0129E | 0440D | N24 | W90 | 06 | 22.1 | | | 9 | 9 | E | PALE | |
| 29 | ADF | 0234E | 0449D | N28 | W32 | 06 | 26.6 | | 06 | 9 | 9 | E | PALE 5555 | |
| 29 | BSL | 0406E | 0705D | S15 | E90 | 07 | 6.0 | 1 | | | | C | ABST | |
| 29 | APR | 0431E | 0705D | N47 | W90 | 06 | 21.6 | 1 | | | | C | ABST | |
| 29 | AFS | 0610E | 1642D | N18 | W01 | 06 | 29.2 | | 03 | 9 | 9 | E | SVTO 5569 | |
| 29 | ADF | 0611E | 1642D | S21 | W23 | 06 | 27.5 | 1 | 10 | 9 | 9 | E | SVTO 5561 | |
| 29 | ASR | 0615E | 1013 | N20 | E90 | 07 | 6.1 | | | 9 | 9 | E | SVTO | |
| 29 | BSL | 0625E | 0635D | S17 | E90 | 07 | 6.1 | 1- | | | | C | CATA | |

ACTIVE PROMINENCES AND FILAMENTS

JUNE 1989

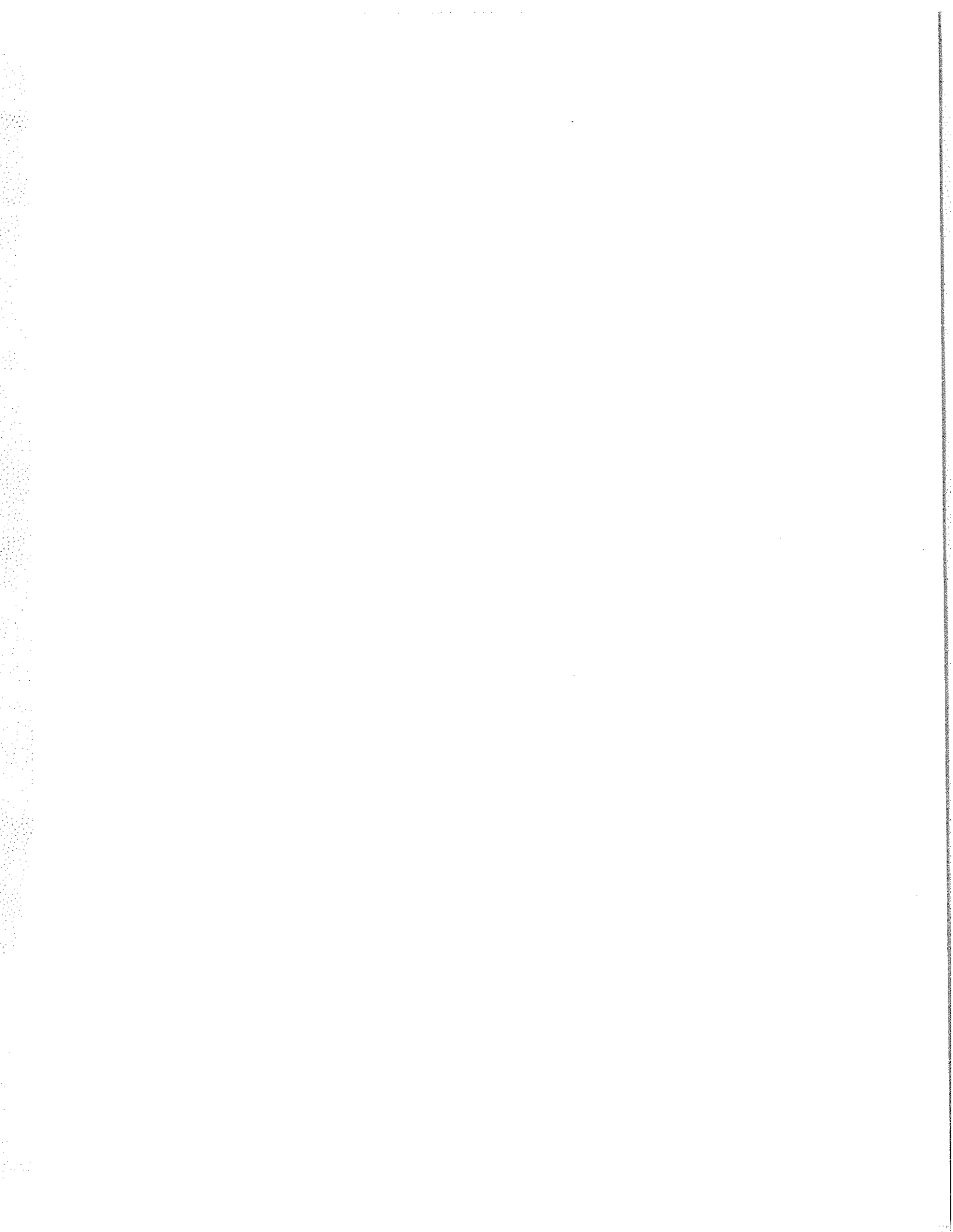
| Day | Event Type | Start (UT) | End (UT) | Lat | CMD | CMP Mo | Day | Imp | Extent | Blue Shift (.1 A) | Red Shift (.1 A) | Obs Type | Sta | NOAA/USAF Reg# | Remarks |
|-----|------------|------------|----------|-----|-----|--------|------|-----|--------|-------------------|------------------|----------|------|----------------|------------------|
| 29 | BSL | 0625E | 0635D | S33 | E90 | 07 | 6.4 | 1- | | | | C | CATA | | |
| 29 | BSL | 0700E | 0710 | N79 | E90 | 07 | 7.6 | 1- | | | | C | CATA | | |
| 29 | BSL | 0700E | 0710 | S17 | E90 | 07 | 6.1 | 1- | | | | C | CATA | | |
| 29 | BSL | 0700E | 0720 | N18 | E90 | 07 | 6.1 | 1- | | | | C | CATA | | |
| 29 | APR | 0715E | 0800D | N64 | W90 | 06 | 21.3 | 1 | | | | V | KHAR | | |
| 29 | BSL | 0720 | 0745 | N11 | E90 | 07 | 6.1 | 1 | | | | C | CATA | | |
| 29 | BSL | 0751 | 0807 | N22 | W90 | 06 | 22.4 | 1- | | | | C | CATA | | |
| 29 | BSL | 0803 | 0807 | N68 | W90 | 06 | 21.2 | 1- | | | | C | CATA | | |
| 29 | BSL | 0905 | 0905D | N17 | E90 | 07 | 6.2 | 1- | | | | C | CATA | | |
| 29 | BSL | 0916E | 0930 | N16 | E90 | 07 | 6.2 | 1- | | | | C | CATA | | |
| 29 | BSL | 0944 | 1057 | N17 | E90 | 07 | 6.2 | 3 | | | | C | CATA | | |
| 29 | BSL | 0952 | 1057 | N12 | E90 | 07 | 6.2 | 1- | | | | C | CATA | | |
| 29 | BSL | 1005 | 1012 | N14 | E90 | 07 | 6.2 | 1 | | | | C | CATA | | |
| 29 | BSD | 1013 | 1036 | N20 | E90 | 07 | 6.3 | | 28 | 9 | 9 | E | SVTO | | |
| 29 | BSL | 1051 | 1121 | S06 | E90 | 07 | 6.2 | 1- | | | | C | CATA | | |
| 29 | BSL | 1055 | 1121 | S08 | E90 | 07 | 6.2 | 1 | | | | C | CATA | | |
| 29 | BSL | 1121 | 1140D | S15 | E90 | 07 | 6.3 | 1- | | | | C | CATA | | |
| 29 | ASR | 1125E | 2234D | N11 | E90 | 07 | 6.2 | | | 9 | 9 | E | RAMY | | |
| 29 | AFS | 1125E | 2234D | N17 | W04 | 06 | 29.2 | | 03 | 8 | 9 | E | RAMY | 5569 | |
| 29 | ASR | 1125E | 2234D | S14 | E90 | 07 | 6.3 | | | 9 | 9 | E | RAMY | | |
| 29 | ADF | 1125E | 2234D | S20 | W26 | 06 | 27.5 | 2 | 09 | 9 | 9 | E | RAMY | 5561 | |
| 29 | SSB | 1249 | | 426 | W67 | 06 | 27.2 | | | 0 | 0 | E | RAMY | | |
| 29 | ASR | 1335E | 0132D | S14 | E90 | 07 | 6.4 | | | 9 | 8 | E | HOLL | | |
| 29 | LPS | 2154E | 0132D | N27 | W45 | 06 | 26.4 | | | 9 | 9 | E | HOLL | 5555 | Flare Associated |
| 29 | SSB | 2159 | | 392 | W38 | 06 | 22.5 | | | 0 | 0 | E | HOLL | | 426 W72 |
| 29 | SSB | 2220 | | 422 | W69 | 06 | 27.9 | | | 0 | 0 | E | PALE | | |
| 29 | DSD | 2220E | 0255D | N20 | W14 | 06 | 28.8 | | 03 | 9 | 9 | E | PALE | 5569 | |
| 29 | ADF | 2223E | 0132D | S15 | W32 | 06 | 27.5 | 1 | 06 | 9 | 9 | E | HOLL | 5561 | |
| 30 | ADF | 0057E | 0452D | N27 | W43 | 06 | 26.7 | | 07 | 9 | 9 | E | PALE | 5555 | |
| 30 | ADF | 0057E | 0452D | N37 | W47 | 06 | 26.2 | 1 | 11 | 9 | 9 | E | PALE | 5555 | |
| 30 | ASR | 0150E | 0452D | S18 | E89 | 07 | 6.8 | | | 9 | 9 | E | PALE | 5572 | |
| 30 | ADF | 0253E | 0452D | N20 | W09 | 06 | 29.4 | | 09 | 9 | 9 | E | PALE | 5569 | |
| 30 | APR | 0555E | 0708D | S15 | E90 | 07 | 7.1 | 1 | | | | C | ABST | | |
| 30 | APR | 0605 | 0641D | S11 | E90 | 07 | 7.0 | 1 | | | | C | ABST | | |
| 30 | BSL | 0615E | 0645 | S14 | E90 | 07 | 7.1 | | | 3 | 9 | E | LEAR | 5572 | |
| 30 | LPS | 0622E | 0649D | S14 | E90 | 07 | 7.1 | | | 9 | 4 | E | LEAR | 5572 | |
| 30 | LPS | 0626E | 1232D | S13 | E82 | 07 | 6.4 | | | 9 | 9 | E | SVTO | 5572 | |
| 30 | APR | 0720E | 0830D | S15 | E90 | 07 | 7.1 | 1 | | | | V | KHAR | | |
| 30 | BSL | 0746E | 0756 | S73 | W90 | 06 | 22.1 | 1- | | | | C | CATA | | |
| 30 | BSL | 0756 | 0829 | S10 | E90 | 07 | 7.1 | 1- | | | | C | CATA | | |
| 30 | BSL | 0820 | 0825 | N89 | W90 | 06 | 21.9 | 1- | | | | C | CATA | | |
| 30 | BSL | 0906 | 0917D | S10 | E90 | 07 | 7.1 | 1 | | | | C | CATA | | |
| 30 | BSL | 0917 | 0935D | N15 | E90 | 07 | 7.2 | 1- | | | | C | CATA | | |
| 30 | BSL | 0917 | 0935D | N54 | E90 | 07 | 8.1 | 1- | | | | C | CATA | | |
| 30 | BSL | 0920 | 0935 | S10 | E90 | 07 | 7.1 | 1- | | | | C | CATA | | |
| 30 | BSL | 0925 | 0935D | S12 | E90 | 07 | 7.2 | 1 | | | | C | CATA | | |
| 30 | LPS | 0935E | 0957D | S16 | E90 | 07 | 7.2 | | | | | V | ATHN | | |
| 30 | BSL | 0945E | 0950D | S12 | E90 | 07 | 7.2 | 1 | | | | C | CATA | | |
| 30 | SSB | 1030 | | 425 | W79 | 06 | 28.1 | | | 0 | 0 | E | RAMY | | |
| 30 | ASR | 1034 | 1301D | S13 | E89 | 07 | 7.1 | | | 9 | 9 | E | RAMY | | |
| 30 | BSL | 1036 | 1100 | S27 | E90 | 07 | 7.4 | 1- | | | | C | CATA | | |
| 30 | BSL | 1050 | 1100 | S13 | E90 | 07 | 7.2 | 1- | | | | C | CATA | | |
| 30 | ASR | 1230 | 1300D | N11 | E90 | 07 | 7.3 | | | 9 | 9 | E | RAMY | | |
| 30 | ASR | 1232E | 1233D | N16 | E83 | 07 | 6.8 | | | 9 | 9 | E | SVTO | 5573 | |
| 30 | ASR | 1232E | 1233D | S13 | E82 | 07 | 6.7 | | | 9 | 9 | E | SVTO | 5572 | |
| 30 | BSD | 1245E | 1325D | S13 | E78 | 07 | 6.4 | | 04 | 9 | 9 | E | HOLL | 5572 | |
| 30 | CRN | 1247E | 1258D | S12 | E90 | 07 | 7.3 | | 09 | 9 | 9 | E | HOLL | 5572 | |
| 30 | LPS | 1258E | 1455D | S12 | E90 | 07 | 7.3 | | | 9 | 9 | E | HOLL | 5572 | |
| 30 | ADF | 1322E | 2119D | N21 | W23 | 06 | 28.8 | 1 | 04 | 9 | 9 | E | HOLL | 5569 | |
| 30 | DSD | 1412E | 1815D | N20 | W24 | 06 | 28.7 | | 04 | 9 | 9 | E | HOLL | 5569 | Flare Associated |
| 30 | DSD | 1414E | 1549D | N19 | W25 | 06 | 28.7 | | 04 | 9 | 9 | E | RAMY | 5569 | Flare Associated |
| 30 | DSD | 1720E | 2023D | N18 | W26 | 06 | 28.7 | | 10 | 9 | 9 | E | RAMY | 5569 | Flare Associated |
| 30 | ADF | 1812E | 0449D | N28 | W53 | 06 | 26.6 | | 05 | 9 | 9 | E | PALE | 5555 | |
| 30 | ADF | 1820E | 0449D | S17 | W44 | 06 | 27.4 | | 09 | 9 | 9 | E | PALE | 5561 | |
| 30 | DSD | 1820E | 0449D | S18 | W30 | 06 | 28.5 | | 03 | 9 | 9 | E | PALE | 5563 | |
| 30 | BSD | 1840E | 0142D | N20 | W25 | 06 | 28.9 | | 06 | 9 | 9 | E | HOLL | 5569 | Flare Associated |
| 30 | SSB | 1920 | | 385 | W43 | 06 | 23.8 | | | 0 | 0 | E | HOLL | | |
| 30 | ADF | 2120E | 0142D | N27 | W56 | 06 | 26.5 | 1 | 05 | 9 | 9 | E | HOLL | 5555 | |
| 30 | LPS | 2206E | 0101D | N30 | W48 | 06 | 27.1 | | | 9 | 9 | E | PALE | 5555 | Flare Associated |

Eppley Lab

 1989 DAILY MEAN SOLAR IRRADIANCE*
 NIMBUS-7 (ERB Channel 10C)
Units = W/m²

| Day | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|-----|---------|---------|---------|---------|---------|---------|---------|-----|-----|-----|-----|-----|
| 1 | 1371.61 | 1372.19 | 1371.86 | 1371.76 | 1371.98 | 1371.70 | 1372.23 | | | | | |
| 2 | 1371.55 | 1371.68 | 1371.73 | 1371.68 | 1371.92 | 1372.13 | 1372.48 | | | | | |
| 3 | 1371.78 | 1371.73 | 1371.94 | 1371.56 | 1372.09 | 1372.62 | 1372.62 | | | | | |
| 4 | 1371.93 | 1371.85 | 1372.05 | 1371.59 | 1372.04 | 1373.00 | 1372.34 | | | | | |
| 5 | 1371.96 | 1372.14 | 1372.43 | 1371.85 | 1372.36 | 1372.87 | 1372.27 | | | | | |
| 6 | 1371.84 | 1372.09 | 1372.47 | 1371.97 | 1372.60 | 1372.91 | 1372.36 | | | | | |
| 7 | 1371.64 | 1372.35 | 1372.43 | 1372.14 | 1372.91 | 1372.72 | 1372.96 | | | | | |
| 8 | 1371.12 | 1372.11 | 1372.22 | 1372.60 | 1373.17 | 1372.93 | 1373.04 | | | | | |
| 9 | 1371.30 | 1371.83 | 1371.75 | 1373.04 | 1373.13 | 1372.77 | 1372.99 | | | | | |
| 10 | 1371.45 | 1371.60 | 1371.39 | 1373.10 | 1373.35 | 1371.96 | 1372.87 | | | | | |
| 11 | 1372.01 | 1371.50 | 1370.94 | 1373.42 | 1373.24 | 1371.35 | 1372.85 | | | | | |
| 12 | 1371.85 | 1371.64 | 1370.64 | 1373.42 | 1373.16 | 1370.73 | 1372.71 | | | | | |
| 13 | 1371.63 | 1371.04 | 1370.79 | 1373.15 | 1373.19 | 1370.11 | 1372.66 | | | | | |
| 14 | 1371.43 | 1371.22 | 1371.20 | 1372.69 | 1372.86 | 1369.67 | 1372.44 | | | | | |
| 15 | 1370.33 | 1371.21 | 1371.60 | 1372.18 | 1372.73 | 1369.43 | 1372.61 | | | | | |
| 16 | 1370.52 | 1371.71 | 1371.77 | 1371.71 | 1372.07 | 1369.85 | 1372.44 | | | | | |
| 17 | 1370.71 | 1371.97 | 1372.09 | 1371.55 | 1371.74 | 1370.52 | 1371.78 | | | | | |
| 18 | 1371.33 | 1372.10 | 1372.07 | 1371.46 | 1371.83 | 1371.45 | 1371.69 | | | | | |
| 19 | 1371.93 | 1372.23 | 1371.96 | 1371.46 | 1371.64 | 1372.48 | 1371.43 | | | | | |
| 20 | 1372.60 | 1371.88 | 1371.45 | 1371.48 | 1370.86 | 1372.59 | 1371.28 | | | | | |
| 21 | 1372.60 | 1371.35 | 1371.03 | 1371.77 | 1370.97 | 1372.77 | 1371.06 | | | | | |
| 22 | 1372.55 | 1371.07 | 1370.85 | 1371.71 | 1371.20 | 1372.19 | 1370.85 | | | | | |
| 23 | 1371.53 | 1371.06 | 1371.12 | 1371.57 | 1371.39 | 1371.08 | 1370.59 | | | | | |
| 24 | 1371.13 | 1371.43 | 1371.29 | 1371.47 | 1371.49 | 1370.65 | 1370.88 | | | | | |
| 25 | 1371.14 | 1371.93 | 1371.36 | 1371.86 | 1371.51 | 1370.39 | 1371.16 | | | | | |
| 26 | 1370.74 | 1372.02 | 1372.14 | 1371.80 | 1371.40 | 1370.44 | 1371.52 | | | | | |
| 27 | 1371.09 | 1372.25 | 1372.10 | 1371.93 | 1371.47 | 1370.35 | 1371.51 | | | | | |
| 28 | 1371.21 | 1372.21 | 1371.79 | 1372.12 | 1371.48 | 1370.43 | 1371.77 | | | | | |
| 29 | 1371.27 | | 1372.14 | 1372.06 | 1371.74 | 1370.97 | 1371.29 | | | | | |
| 30 | 1371.94 | | 1372.00 | 1372.15 | 1371.73 | 1371.44 | 1371.21 | | | | | |
| 31 | 1372.01 | | 1371.88 | | 1371.51 | | 1370.84 | | | | | |

*Daily averages are cosine-corrected for any off-axis positioning of the sun in the telescope aperture. All values are normalized to 1 astronomical unit.



C O N T E N T S

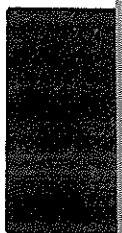
Comprehensive Reports

MISCELLANEOUS DATA

Number 544 Part II

Page

| | |
|---|---------|
| MEUDON CARTE SYNOPTIQUE Carrington Rotations 1814-15 April-May 1989 . . . | 146-149 |
| Active Regions and Filaments | |
| Synoptic Solar Map | |
| SOLAR PROTON EVENTS Affecting the Earth's Environment (GOES satellites) | |
| January 1976 - November 1989 | 150-151 |



146
Late
Apr 89

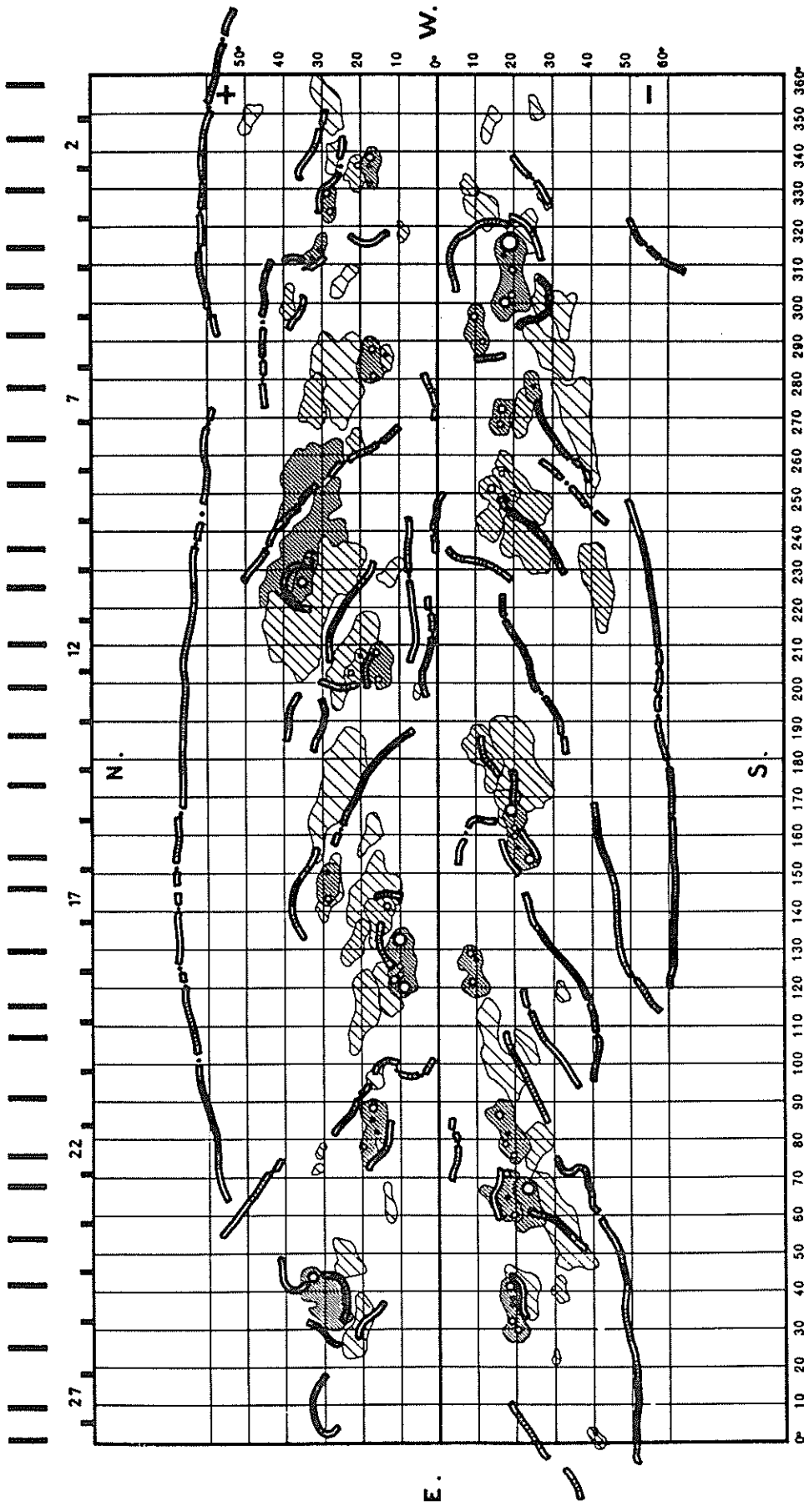
CARTE SYNOPTIQUE
ACTIVE REGIONS
CARRINGTON ROTATION 1814

(01 April to 28 April 1989)

| Region No. | Coordinates | | Age at | | Spotless Region | Region No. in Rotation 1813 | Activity at West Limb |
|------------|-------------|-------|------------|-----|-----------------|-----------------------------|-----------------------|
| | Lat. | Long. | CHP (Days) | Imp | | | |
| 1 | 26 S | 351 | +1 | 1 | x | | disappeared |
| 2 | 17 N | 337 | +2 | 3 | | | increasing |
| 3 | 22 N | 334 | >6 | 2 | | | dispersed |
| 4 | 8 S | 331 | >6 | 1 | x | | decreasing |
| 5 | 28 S | 327 | +1 | 1 | x | | dispersed |
| 6 | 29 N | 327 | -3 | 3 | | | stable |
| 7 | 12 S | 325 | >6 | 1 | x | | dispersed |
| 8 | 9 N | 319 | -2 | 1 | x | | disappeared |
| 9 | 22 S | 318 | >6 | 1 | x | 8 | disappeared |
| 10 | 31 N | 314 | 0 | 2 | | | decreasing |
| 11 | 19 S | 308 | >6 | 6 | | | decreasing |
| 12 | 27 S | 302 | +5 | 1 | x | | decreasing |
| 13 | 39 N | 301 | >6 | 1 | x | | decreasing |
| 14 | 10 S | 293 | >6 | 3 | | | decreasing |
| 15 | 28 S | 289 | >6 | 1 | x | 12 | decreasing |
| 16 | 14 N | 287 | +5 | 2 | | | disappeared |
| 17 | 18 N | 286 | 0 | 3 | | | decreasing |
| 18 | 24 S | 279 | -3 | 2 | | | decreasing |
| 19 | 33 N | 275 | >6 | 1 | x | 16 | dispersed |
| 20 | 22 S | 272 | >6 | 1 | x | | decreasing |
| 21 | 17 S | 270 | +2 | 3 | | | decreasing |
| 22 | 22 N | 263 | >6 | 1 | x | | dispersed |
| 23 | 18 S | 253 | +1 | 2 | | | decreasing |
| 24 | 14 S | 246 | >6 | 3 | | | decreasing |
| 25 | 21 S | 246 | >6 | 1 | x | 22 | decreasing |
| 26 | 35 N | 244 | >6 | 1 | x | 19 | decreasing |
| 27 | 35 N | 229 | >6 | 3 | | | decreasing |
| 28 | 42 S | 227 | >6 | 1 | x | | dispersed |
| 29 | 34 N | 222 | >6 | 1 | x | 24+25 | dispersed |
| 30 | 23 N | 207 | >6 | 1 | x | | dispersed |
| 31 | 15 N | 205 | 0 | 3 | | | increasing |
| 32 | 32 N | 203 | >6 | 2 | | | decreasing |
| 33 | 12 S | 181 | >6 | 1 | x | 33 | dispersed |
| 34 | 19 S | 179 | >6 | 1 | x | 32 | dispersed |
| 35 | 18 S | 168 | >6 | 1 | x | 35 | decreasing |
| 36 | 20 S | 160 | +3 | 5 | | | decreasing |
| 37 | 29 N | 147 | >6 | 1 | x | | disappeared |
| 38 | 29 N | 147 | -2 | 2 | | | stable |
| 39 | 18 N | 144 | >6 | 1 | x | | dispersed |
| 40 | 15 N | 138 | >6 | 2 | | 41 | decreasing |
| 41 | 22 N | 132 | >6 | 1 | x | 41 | dispersed |
| 42 | 10 N | 127 | >6 | 6 | | | decreasing |
| 43 | 9 S | 124 | -2 | 3 | | | stable |
| 44 | 20 N | 119 | >6 | 1 | x | 44 | dispersed |
| 45 | 32 S | 119 | 0 | 1 | x | | disappeared |
| 46 | 20 N | 115 | >6 | 1 | x | | dispersed |
| 47 | 18 N | 83 | +6 | 3 | | | decreasing |
| 48 | 17 S | 82 | >6 | 3 | | | decreasing |
| 49 | 25 S | 78 | >6 | 1 | x | 47 | decreasing |
| 50 | 31 N | 77 | +4 | 1 | x | | disappeared |
| 51 | 13 S | 66 | -3 | 1 | x | | stable |
| 52 | 17 S | 66 | -1 | 3 | | | decreasing |
| 53 | 23 S | 64 | >6 | 4 | | | stable |
| 54 | 31 S | 59 | >6 | 1 | x | 49 | decreasing |
| 55 | 25 N | 49 | >6 | 1 | x | | decreasing |
| 56 | 22 S | 41 | >6 | 1 | x | 54 | dispersed |
| 57 | 31 S | 40 | +2 | 1 | x | | disappeared |
| 58 | 31 N | 39 | >6 | 3 | | | decreasing |
| 59 | 18 S | 36 | >6 | 3 | | | decreasing |
| 60 | 21 N | 31 | >6 | 1 | x | 56+57 | dispersed |
| 61 | 40 S | 1 | -1 | 2 | | | decreasing |

CARTE SYNOPTIQUE
CARRINGTON ROTATION NUMBER 1814
(1 April to 28 April 1989)

Meudon Observatory
April 1989



Heliographic Longitude

148
Late
May 89

CARTE SYNOPTIQUE
ACTIVE REGIONS
CARRINGTON ROTATION 1815

(28 April to 25 May 1989)

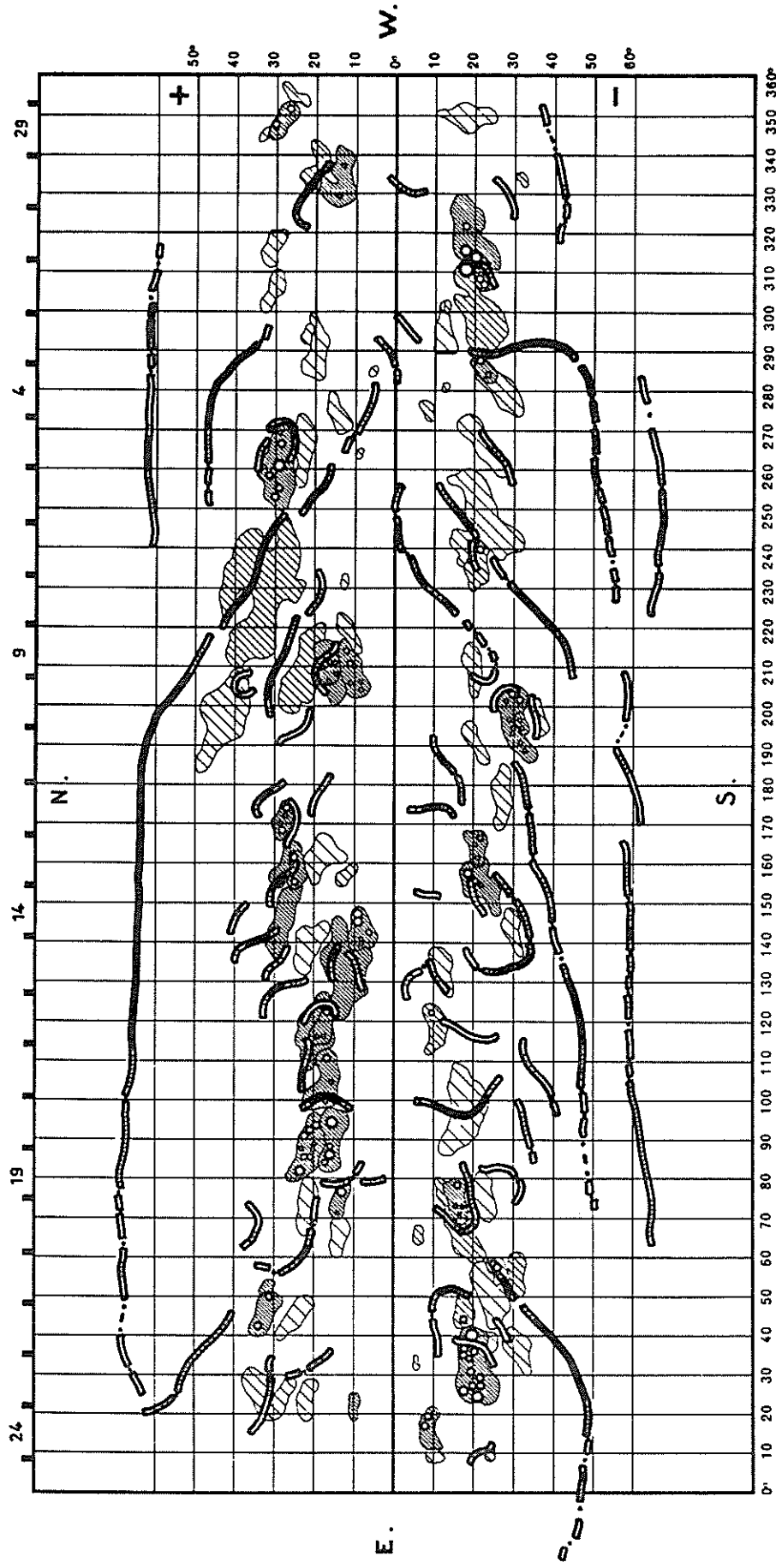
| Region No. | Coordinates Lat. Long. | Age at CMP (Days) | Imp | Spotless Region | Region No. in Rotation 1814 | Activity at West Limb |
|------------|---------------------------|-------------------------|-----|--------------------|--------------------------------|--------------------------|
| 1 | 28 N 349 | -1 | 3 | | | decreasing |
| 2 | 20 N 337 | >6 | 1 | x | | stable |
| 3 | 14 N 334 | >6 | 2 | | | decreasing |
| 4 | 19 S 320 | >6 | 4 | | | decreasing |
| 5 | 31 N 316 | >6 | 1 | x | 6 | disappeared |
| 6 | 22 S 311 | -1 | 3 | | | stable |
| 7 | 31 N 305 | >6 | 1 | x | 10 | dispersed |
| 8 | 20 S 302 | >6 | 4 | | 11 | decreasing |
| 9 | 22 S 286 | -3 | 3 | | | stable |
| 10 | 26 S 281 | >6 | 1 | x | 15 | dispersed |
| 11 | 2 S 275 | 0 | 1 | x | | disappeared |
| 12 | 15 N 275 | >6 | 1 | x | | disappeared |
| 13 | 23 N 265 | >6 | 1 | x | | decreasing |
| 14 | 19 N 260 | >6 | 4 | | | decreasing |
| 15 | 21 S 247 | >6 | 1 | x | 23+25 | decreasing |
| 16 | 21 S 266 | >6 | 2 | | | decreasing |
| 17 | 35 N 229 | >6 | 1 | x | 26+27 | decreasing |
| 18 | 11 N 218 | >6 | 1 | x | | dispersed |
| 19 | 11 N 210 | +6 | 3 | | | decreasing |
| 20 | 17 N 210 | >6 | 1 | x | 31 | decreasing |
| 21 | 17 N 210 | +3 | 2 | | | decreasing |
| 22 | 20 S 209 | >6 | 1 | x | | decreasing |
| 23 | 23 N 210 | >6 | 1 | x | | decreasing |
| 24 | 37 S 197 | >6 | 1 | x | | dispersed |
| 25 | 44 N 197 | >6 | 1 | x | | decreasing |
| 26 | 30 S 196 | +5 | 4 | | | decreasing |
| 27 | 32 S 196 | 0 | 2 | | | disappeared |
| 28 | 20 S 191 | >6 | 1 | x | | dispersed |
| 29 | 27 S 176 | >6 | 1 | x | | dispersed |
| 30 | 28 N 172 | >6 | 3 | | | decreasing |
| 31 | 21 S 164 | +1 | 3 | | | decreasing |
| 32 | 27 N 160 | >6 | 1 | x | | decreasing |
| 33 | 25 N 158 | -5 | 3 | | | (?) |
| 34 | 12 N 157 | -4 | 1 | x | | decreasing |
| 35 | 22 S 155 | >6 | 3 | | 36 | decreasing |
| 36 | 28 N 146 | >6 | 1 | x | | dispersed |
| 37 | 9 N 144 | >6 | 4 | | | decreasing |
| 38 | 29 S 143 | >6 | 1 | x | | dispersed |
| 39 | 13 N 134 | >6 | 1 | x | 40+42 | decreasing |
| 40 | 12 S 134 | >6 | 1 | x | | disappeared |
| 41 | 18 N 119 | +2 | 2 | | | decreasing |
| 42 | 11 S 118 | >6 | 2 | | | decreasing |
| 43 | 19 N 118 | >6 | 1 | x | | decreasing |
| 44 | 18 N 105 | >6 | 2 | | | decreasing |
| 45 | 16 N 90 | >6 | 4 | | | decreasing |
| 46 | 22 N 88 | +2 | 5 | | | stable |
| 47 | 14 N 75 | +2 | 3 | | | decreasing |
| 48 | 16 S 75 | 0 | 3 | | | decreasing |
| 49 | 16 S 69 | >6 | 1 | x | 51+52 | decreasing |
| 50 | 6 S 66 | -3 | 1 | x | | dispersed |
| 51 | 26 S 57 | >6 | 3 | | | decreasing |
| 52 | 30 S 56 | >6 | 1 | x | | decreasing |
| 53 | 32 N 52 | +3 | 1 | x | | disappeared |
| 54 | 17 S 46 | >6 | 2 | | | decreasing |
| 55 | 33 N 46 | -2 | 3 | | | stable |
| 56 | 30 S 36 | >6 | 1 | x | | dispersed |
| 57 | 20 S 33 | +5 | 6 | | | stable |
| 58 | 33 N 25 | >6 | 1 | x | 58 | dispersed |
| 59 | 22 N 24 | +1 | 1 | x | | decreasing |
| 60 | 11 N 22 | -3 | 1 | x | | stable |
| 61 | 8 S 17 | -1 | 3 | | | increasing |
| 62 | 23 S 10 | +6 | 1 | x | | disappeared |

CARTE SYNOPTIQUE

CARRINGTON ROTATION NUMBER 1815
(28 April to 25 May 1989)

Meudon Observatory

April 1989



Heliographic Longitude

NOAA Space Environment Services Center

Solar Proton Events Affecting the Earth Environment
January 1976 - November 1989

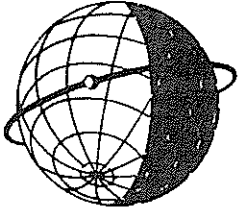
Preliminary Listing

| PARTICLE EVENT | | | | | ASSOCIATED FLARE AND ACTIVE REGION | | | | | | | |
|----------------|------------|---------|------------|--|------------------------------------|------------|------------|---------|------------------|-------|-----------------------------------|--|
| Start | | Maximum | | Satellite Proton Flux* (cm ⁻² sr ⁻¹) ⁻¹ | Maximum | | Importance | | Disk Location | | NOAA/ USAF Region Number | |
| Date | Time UT | Date | Time UT | | Date | Time UT | X-ray | Optical | °Lat | °Long | | |
| 1976 | | | | | | | | | | | | |
| Apr 30 | 2120 | May 01 | 1700 | 12 | Apr 30 | 2114 | X2 | 2B | S09 | W47 | 0700 | |
| 1977 | | | | | | | | | | | | |
| Sept 19 | 1430 | Sept 19 | 2130 | 200 | Sept 19 | 1054 | X2 | 3B | N08 | W58 | 0889 | |
| Nov 22 | 1400 | Nov 22 | 1800 | 160 | Nov 22 | 1006 | X1 | 2N | N24 | W38 | 0939 | |
| 1978 | | | | | | | | | | | | |
| Feb 13 | 0930 | Feb 14 | 1000 | 850 | Feb 13 | 0255 | M7 | 0B | N22 | W13 | 1001 | |
| Apr 11 | 1530 | Apr 11 | 1630 | 0 | Apr 11 | 1353 | X2 | 2B | N19 | W54 | 1057 | |
| Apr 29 | 0445 | Apr 30 | 2000 | 1,000 | Apr 28 | 1306 | X5 | 4B | N22 | E41 | 1092 | |
| May 07 | 0420 | May 07 | 0420 | 100 | May 07 | 0330 | X2 | 2B | N22 | W64 | 1095 | |
| June 02 | 0730 | June 02 | 0935 | 19 | May 31 | 1009 | M5 | 2B | N23 | W50 | 1129 | |
| June 24 | 0900 | June 25 | 0230 | 25 | June 22 | 1709 | M2 | 3B | N19 | E18 | 1164 | |
| July 13 | 0300 | July 13 | 1000 | 20 | ----- | ----- | ----- | ----- | ----- | ----- | ----- | |
| Sept 23 | 1035 | Sept 24 | 0400 | 2,200 | Sept 23 | 0941 | X1 | 3B | N35 | W50 | 1294 | |
| Nov 10 | 2130 | Nov 10 | 2140 | 38 | Nov 10 | 0042 | M1 | 2N | N17 | E02 | 1385 | |
| 1979 | | | | | | | | | | | | |
| Feb 17 | 2020 | Feb 17 | 2205 | 31 | Feb 16 | 0200 | X2 | 2B | N15 | E48 | 1574 | |
| Apr 03 | 1600 | Apr 03 | 2310 | 45 | ----- | ----- | ----- | ----- | ----- | ----- | ----- | |
| June 06 | 1850 | June 07 | 0005 | 950 | June 04 | 0409 | X1 | 2B | N20 | E34 | 1781 | |
| July 07 | 0015 | July 07 | 1010 | 50 | ----- | ----- | ----- | ----- | ----- | ----- | ----- | |
| Aug 19 | 0850 | Aug 20 | 0830 | 450 | Aug 18 | 1343 | X1 | --- | S08 | E90 | --- | |
| Aug 19 | 0850 | Aug 20 | 1700 | 410 | Aug 18 | 1343 | X1 | --- | S08 | E90 | --- | |
| Aug 19 | 0850 | Aug 21 | 0740 | 500 | Aug 18 | 1343 | X1 | --- | S08 | E90 | --- | |
| Sept 15 | 1500 | Sept 16 | 1200 | 60 | Sept 14 | 0802 | X2 | --- | N10 | E90 | 1994 | |
| Nov 16 | 0430 | Nov 16 | 1300 | 75 | Nov 15 | 1639 | M1 | 0B | N34 | W25 | 2110 | |
| 1980 | | | | | | | | | | | | |
| Feb 06 | 1340 | Feb 06 | 1850 | 12 | ----- | ----- | ----- | ----- | ----- | ----- | ----- | |
| July 17 | 2300 | July 19 | 1930 | 100 | July 17 | 0603 | M3 | 1B | S12 | E06 | 2562 | |
| 1981 | | | | | | | | | | | | |
| Mar 30 | 0900 | Mar 30 | 2115 | 30 | Mar 30 | 0049 | M3 | 2N | N13 | W74 | 2993 | |
| Apr 10 | 1745 | Apr 11 | 1400 | 50 | Apr 10 | 1655 | X2 | 3B | N09 | W40 | 3025 | |
| Apr 24 | 1515 | Apr 24 | 2330 | 160 | Apr 24 | 1400 | X5 | 2B | N18 | W50 | 3049 | |
| May 09 | 1200 | May 10 | 2130 | 150 | May 08 | 2252 | M7 | 2B | N09 | E37 | 3099 | |
| May 15 | 0300 | May 16 | 1950 | 130 | May 13 | 0425 | X1 | 3B | N11 | E58 | 3106 | |
| July 20 | 1430 | July 20 | 1825 | 100 | July 20 | 1329 | M5 | 1B | S26 | W75 | 3204 | |
| July 25 | 0600 | July 25 | 1320 | 18 | ----- | ----- | ----- | ----- | ----- | ----- | ----- | |
| Aug 10 | 0115 | Aug 10 | 0435 | 57 | Aug 07 | 1916 | M4 | 2B | S10 | E24 | 3257 | |
| Oct 08 | 1235 | Oct 11 | 0600 | 83 | Oct 07 | 2308 | X3 | 1B | S19 | E88 | 3390 | |
| Oct 12 | 0700 | Oct 13 | 2247 | 2,000 | Oct 12 | 0636 | X3 | 3B | S16 | E20 | 3390 | |
| Dec 10 | 0545 | Dec 11 | 0900 | 65 | Dec 09 | 1854 | M5 | 3B | N12 | W16 | 3496 | |
| 1982 | | | | | | | | | | | | |
| Jan 31 | 0055 | Jan 31 | 1630 | 830 | Jan 30 | 2358 | X1 | 3B | S13 | E19 | 3576 | |
| June 06 | 0245 | June 06 | 0245 | 10 | June 03 | 1146 | X8 | 2B | S09 | E72 | 3763 | |
| June 09 | 0040 | June 09 | 0510 | 30 | June 06 | 1637 | X12 | 3B | S11 | E26 | 3763 | |
| July 11 | 0700 | July 13 | 1615 | 2,900 | July 09 | 0742 | X9 | 3B | N17 | E73 | 3804 | |
| July 22 | 2030 | July 23 | 0220 | 240 | July 22 | 1734 | M4 | 0F | N29 | W86 | 3804 | |
| Sept 05 | 2205 | Sept 06 | 0100 | 66 | Sept 04 | 0400 | M4 | 3N | N11 | E30 | 3886 | |
| Nov 22 | 1940 | Nov 22 | 2140 | 40 | Nov 22 | 1828 | M7 | 1N | N11 | W43 | 3994 | |
| Nov 26 | 0605 | Nov 26 | 1500 | 25 | Nov 26 | 0253 | X4 | 2B | S11 | W87 | 3994 | |
| Dec 08 | 0010 | Dec 08 | 1000 | 1,000 | Dec 07 | 2354 | X2 | 0B | S14 | W81 | 4007 | |
| Dec 17 | 1845 | Dec 18 | 0945 | 130 | Dec 15 | 0202 | X12 | 2B | S10 | E24 | 4026 | |
| Dec 19 | 1920 | Dec 20 | 0515 | 85 | Dec 19 | 1624 | M9 | 2B | N10 | W75 | 4022 | |
| Dec 27 | 0600 | Dec 27 | 1345 | 190 | Dec 25 | 0752 | X2 | 1B | S14 | E31 | 4033 | |

Solar Proton Events Affecting the Earth Environment—continued

| PARTICLE EVENT | | | | | ASSOCIATED FLARE AND ACTIVE REGION | | | | | | |
|----------------|------------|---------|------------|---|------------------------------------|------------|------------|---------|------------------|-------|-----------------------------------|
| Start | | Maximum | | Satellite Proton Flux* (cm ² -s-sr) ⁻¹ | Maximum | | Importance | | Disk Location | | NOAA/ USAF Region Number |
| Date | Time UT | Date | Time UT | | Date | Time UT | X-ray | Optical | °Lat | °Long | |
| Feb 03 | 1200 | Feb 04 | 1620 | 340 | 1983 | | | | | | |
| June 15 | 0435 | June 15 | 1800 | 18 | Feb 02 | 0619 | X4 | 3B | S19 | W08 | 4077 |
| | | | | | June 14 | --- | --- | --- | S09 | W90 | 4201 |
| | | | | | 1984 | | | | | | |
| Feb 16 | 0915 | Feb 16 | 1005 | 660 | Feb 16 | --- | --- | --- | S12 | W95 | 4408 |
| Feb 19 | 1310 | Feb 21 | 1415 | 55 | Feb 17 | 2301 | X2 | 2B | N16 | E82 | 4421 |
| Mar 13 | 1440 | Mar 13 | 1450 | 10 | --- | --- | --- | --- | --- | --- | --- |
| Mar 14 | 0405 | Mar 14 | 0505 | 100 | Mar 14 | 0334 | M2 | 2B | S12 | W42 | 4433 |
| Apr 25 | 1330 | Apr 26 | 1420 | 2,500 | Apr 24 | 0005 | X13 | 3B | S12 | E43 | 4474 |
| May 24 | 1045 | May 24 | 1140 | 31 | May 24 | 1503 | M6 | 2B | S09 | E24 | 4492 |
| May 31 | 1315 | May 31 | 1415 | 15 | May 31 | 1142 | M1 | --- | S09 | W90 | 4492 |
| | | | | | 1985 | | | | | | |
| Jan 22 | 0415 | Jan 31 | 0550 | 14 | Jan 21 | 2350 | X4 | 2B | S08 | W38 | 4617 |
| Apr 25 | 1430 | Apr 26 | 0600 | 160 | Apr 24 | 0935 | X1 | 3B | N06 | E27 | 4647 |
| July 09 | 0235 | July 09 | 0325 | 140 | July 09 | 0204 | M2 | 1B | S16 | W36 | 4671 |
| | | | | | 1986 | | | | | | |
| Feb 06 | 0825 | Feb 07 | 1730 | 130 | Feb 06 | 0625 | X1 | 3B | S04 | W06 | 4711 |
| Feb 14 | 1155 | Feb 15 | 0400 | 130 | Feb 14 | 0929 | M6 | 1B | N01 | W76 | 4713 |
| May 04 | 1255 | May 04 | 1320 | 16 | May 04 | 1007 | M1 | --- | N06 | W90 | 4727 |
| | | | | | 1987 | | | | | | |
| Nov 08 | 0200 | Nov 08 | 0940 | 120 | Nov 07 | 2014 | M1 | --- | N31 | W90 | 4875 |
| | | | | | 1988 | | | | | | |
| Jan 02 | 2325 | Jan 03 | 0835 | 92 | Jan 02 | 2145 | X1 | 3B | S34 | W18 | 4912 |
| Mar 25 | 2225 | Mar 25 | 2330 | 58 | Mar 25 | 2145 | --- | EPL | N22 | W90 | 4965 |
| June 30 | 1055 | June 30 | 1140 | 21 | June 30 | 0906 | M9 | 2B | S16 | E22 | 5060 |
| Aug 26 | 0000 | Aug 26 | 0045 | 42 | Aug 23 | 1804 | M2 | EPL | N24 | E90 | 5125 |
| Oct 12 | 0920 | Oct 12 | 0930 | 12 | Oct 12 | 0511 | X2 | 2N | S20 | W66 | 5175 |
| Nov 08 | 2225 | Nov 09 | 0635 | 13 | Nov 07 | 1105 | M3 | 1N | S17 | W47 | 5212 |
| Nov 14 | 0130 | Nov 14 | 0235 | 13 | Nov 13 | 2309 | M3 | 1N | S23 | W27 | 5227 |
| Dec 17 | 0610 | Dec 17 | 0855 | 18 | Dec 16 | 0841 | X4 | 1B | N26 | E37 | 5278 |
| Dec 17 | 2000 | Dec 18 | 0150 | 29 | --- | --- | --- | --- | --- | --- | --- |
| | | | | | 1989 | | | | | | |
| Jan 04 | 2305 | Jan 05 | 0130 | 28 | Jan 04 | 1753 | M4 | 1N | S20 | W60 | 5303 |
| Mar 08 | 1735 | Mar 13 | 0645 | 3,500 | Mar 06 | 1410 | X12 | 3B | N35 | E69 | 5395 |
| Mar 17 | 1855 | Mar 18 | 0920 | 2,000 | Mar 17 | 1744 | X6 | 2B | N33 | W60 | 5395 |
| Mar 23 | 2040 | Mar 24 | 0110 | 53 | Mar 23 | 1948 | X1 | 3B | N18 | W28 | 5409 |
| Apr 11 | 1435 | Apr 12 | 0125 | 450 | Apr 09 | 0059 | X3 | 4B | N35 | E29 | 5441 |
| May 05 | 0905 | May 05 | 1000 | 27 | May 04 | 1115 | M5 | 2N | S20 | W36 | 5464 |
| May 06 | 0235 | May 06 | 1045 | 110 | May 05 | 0739 | X2 | 3B | N30 | E01 | 5470 |
| May 23 | 1135 | May 23 | 1350 | 68 | May 22 | 0037 | M5 | 2B | S21 | E16 | 5497 |
| May 24 | 0730 | May 24 | 0905 | 15 | --- | --- | --- | --- | --- | --- | --- |
| June 18 | 1650 | June 18 | 1910 | 18 | June 18 | 1447 | C4 | 0N | N12 | W31 | 5534 |
| June 30 | 0655 | June 30 | 0710 | 17 | June 29 | 2127 | M3 | 2B | N26 | W60 | 5555 |
| July 01 | 0655 | July 01 | 0720 | 17 | --- | --- | --- | --- | --- | --- | --- |
| July 25 | 0900 | July 25 | 1225 | 54 | July 25 | 0844 | X2 | 2N | N25 | W84 | 5603 |
| Aug 12 | 1600 | Aug 13 | 0710 | 9,200 | Aug 12 | 1427 | X2 | 2B | S16 | W37 | 5629 |
| Sept 04 | 0120 | Sept 04 | 0510 | 44 | Sept 03 | 1432 | X1 | 1B | S18 | E16 | 5669 |
| Sept 12 | 1935 | Sept 13 | 0825 | 57 | Sept 12 | 0814 | M5 | EPL | S18 | W79 | 5669 |
| Sept 29 | 1205 | Sept 30 | 0210 | 4,500 | Sept 29 | 1133 | X9 | EPL | S26 | W90 | 5698 |
| Oct 06 | 0050 | Oct 06 | 0825 | 22 | --- | --- | --- | --- | --- | --- | --- |
| Oct 19 | 1305 | Oct 20 | 1600 | 73,000 | Oct 19 | 1258 | X13 | 4B | S27 | E10 | 5747 |
| Nov 09 | 0240 | Nov 09 | 0610 | 43 | --- | --- | --- | --- | --- | --- | --- |
| Nov 15 | 0735 | Nov 15 | 0910 | 71 | Nov 15 | 0659 | X3 | 3B | N11 | W26 | 5786 |

*Particle flux measured at > 10 MeV at geosynchronous satellite orbit.



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."