PART B

# SOLAR - GEOPHYSICAL DATA

ISSUED
DECEMBER 1959

U. S. DEPARTMENT OF COMMERCE
NATIONAL BUREAU OF STANDARDS
CENTRAL RADIO PROPAGATION LABORATORY
BOULDER, COLORADO

CRPL-F 184
PART B

NATIONAL BUREAU OF STANDARDS
CENTRAL RADIO PROPAGATION LABORATORY
BOULDER, COLORADO

Issued
31 Dec. 1959

# SOLAR - GEOPHYSICAL DATA

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# INTRODUCTION

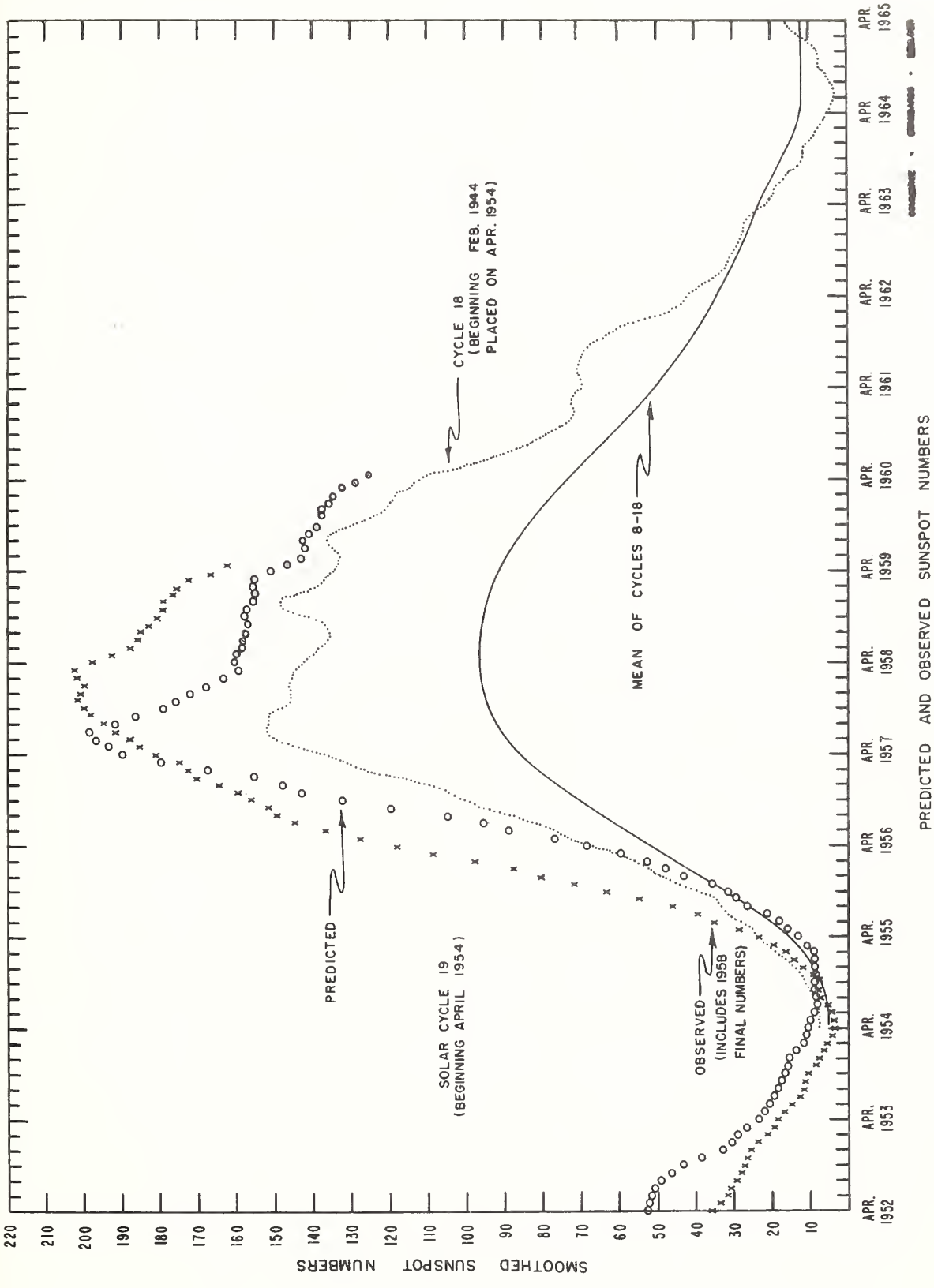
The descriptive text is published quarterly or whenever context of the report is changed. The last issue in which the text appeared was CRPL-F183 Part B issued November 1959.

# DAILY SOLAR INDICES

| Oct. 1959 | American Relative Sunspot Numbers $R_A'$ |
|---|---|
| 1 | 60 |
| 2 | 87 |
| 3 | 96 |
| 4 | 108 |
| 5 | 111 |
| 6 | 106 |
| 7 | 120 |
| 8 | 93 |
| 9 | 82 |
| 10 | 82 |
| 11 | 99 |
| 12 | 89 |
| 13 | 83 |
| 14 | 88 |
| 15 | 108 |
| 16 | 119 |
| 17 | 126 |
| 18 | 108 |
| 19 | 110 |
| 20 | 105 |
| 21 | 97 |
| 22 | 131 |
| 23 | 164 |
| 24 | 164 |
| 25 | 150 |
| 26 | 126 |
| 27 | 158 |
| 28 | 113 |
| 29 | 134 |
| 30 | 126 |
| 31 | 151 |
| Mean: | 112.7 |

| Nov. 1959 | Zürich Provisional Relative Sunspot Numbers $R_Z$ | Daily Values Solar Flux at 2800 Mc, Ottawa, Canada Flux |
|---|---|---|
| 1 | 124 | 159 |
| 2 | 121 | 168 |
| 3 | 97 | 165 |
| 4 | 93 | 154 |
| 5 | 74 | 151 |
| 6 | 74 | 157 |
| 7 | 114 | 161 |
| 8 | 122 | 173 |
| 9 | 127 | 183 |
| 10 | 131 | 194 |
| 11 | 144 | 193 |
| 12 | 151 | 192 |
| 13 | 149 | 191 |
| 14 | 134 | 187 |
| 15 | 123 | 182 |
| 16 | 109 | 175 |
| 17 | 72 | 161 |
| 18 | 56 | 155 |
| 19 | 59 | 157 |
| 20 | 65 | 154 |
| 21 | 70 | 154 |
| 22 | 110 | 173 |
| 23 | 131 | 187 |
| 24 | 147 | 205 |
| 25 | 149 | 226 |
| 26 | 149 | 221 |
| 27 | 145 | 218 |
| 28 | 117 | 227 |
| 29 | 123 | 225 |
| 30 | 135 | 230 |
| Mean: | 113.8 | 182.6 |

[redacted]


SMOOTHED SUNSPOT NUMBERS
220
210
200
190
180
170
160
150
140
130
120
110
100
90
80
70
60
50
40
30
20
10
APR. 1952
APR. 1953
APR. 1954
APR. 1955
APR 1956
APR. 1957
APR. 1958
APR. 1959
APR. 1960
APR. 1961
APR. 1962
APR. 1963
APR 1964
APR. 1965
CYCLE 18 (BEGINNING FEB. 1944 PLACED ON APR. 1954)
MEAN OF CYCLES 8-18
PREDICTED
SOLAR CYCLE 19 (BEGINNING APRIL 1954)
OBSERVED (INCLUDES 1958 FINAL NUMBERS)
PREDICTED AND OBSERVED SUNSPOT NUMBERS

# CALCIUM PLAGE AND SUNSPOT REGIONS

NOVEMBER 1959

| CMP Nov 1959 | Lat | McMath Plage Number | Return of Region | Calcium Plage Data | | | | Sunspot Data | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | CMP Values Area | Int. | History, Age | | CMP Values Area | Count | History |
| 01.5 | N21 | 5441 | New | 2500 | 3 | ℓ / ℓ | 1 | 420 | 5 | ℓ / ℓ |
| 02.8 | S17 | 5442 | 5401 | 2300 | 2 | ℓ – ℓ | 3 | | | |
| 04.0 | N33 | 5444 | 5399 | 300 | 1.5 | ℓ / ℓ | 3 | | | |
| 04.3 | N06 | 5443 | 5405 | 5000 | 3 | ℓ – ℓ | 7 | (20) | (1) | b∧d |
| 05.6 | N21 | 5446 | New | 3800 | 3 | ℓ – ℓ | 1 | 440 | 16 | ℓ \ ℓ |
| 06.4 | S07 | 5455 | New | 300 | 2 | b ⌜ ℓ | 1 | | | |
| 08.8 | N29 | 5447 | 5408 | 3000 | 3 | ℓ – ℓ | 2 | 100 | 2 | ℓ⌝d |
| 09.5 | N08 | 5451 | * | 800 | 1 | ℓ ⌝d | 1 | | | |
| 10.2 | S16 | 5452 | 5416 | 5000 | 3.5 | ℓ / ℓ | 3 | 1870 | 8 | ℓ – ℓ |
| 12.3 | N10 | 5453 | 5419 | 3000 | 3 | ℓ – ℓ | 3 | 510 | 1 | ℓ – ℓ |
| 13.0 | S13 | 5454 | 5418 | 5000 | 3.5 | ℓ – ℓ | 2 | 740 | 20 | ℓ \ ℓ |
| 13.4 | N30 | 5456 | New | 700 | 2 | ℓ \ ℓ | 1 | | | |
| 14.1 | N14 | 5457 | 5421 | 3700 | 3.5 | ℓ – ℓ | 4 | 490 | 4 | ℓ – ℓ |
| 17.1 | N04 | 5458 | 5430 | 1900 | 3 | ℓ – ℓ | 5 | 10 | 1 | ℓ⌝d |
| 17.5 | S09 | 5459 | ** | 2700 | 2.5 | ℓ – ℓ | 2,4 | | | |
| 18.6 | N31 | 5460 | 5426 | 1400 | 2.5 | ℓ – d | 5 | | | |
| 19.2 | N12 | 5461 | *** | 3600 | 3 | ℓ \ ℓ | 2,5 | 100 | 1 | ℓ \ ℓ |
| 19.5 | N25 | 5462 | 5428 | 800 | 2 | ℓ – ℓ | 5 | | | |
| 20.0 | S29 | 5469 | New | (500) | (2) | b √ ℓ | 1 | | | |
| 21.7 | S06 | 5463 | New | 500 | 2.5 | ℓ – d | 1 | | | |
| 22.0 | N11 | 5464 | 5433 | 4500 | 2.5 | ℓ / ℓ | 4 | 110 | 1 | ℓ \ ℓ |
| 23.1 | S03 | 5465 | New | 1000 | 3 | ℓ – ℓ | 1 | | | |
| 23.8 | N12 | 5466 | 5437 | 1400 | 2.5 | ℓ / ℓ | 3 | 340 | 9 | ℓ⌝d |
| 24.5 | S13 | 5467 | 5438 | 3500 | 3 | ℓ / ℓ | 2 | 280 | 6 | b⌜ℓ |
| 25.8 | N17 | 5468 | 5439 | 11,000 | 3.5 | ℓ – ℓ | 2 | 1650 | 14 | ℓ – ℓ |
| 27.8 | N32 | 5481 | New | (1000) | (2.5) | b ⌜ ℓ | 1 | (50) | (1) | b⌜ℓ |
| 29.8 | N21 | 5471 | **** | 7000 | 3 | ℓ – ℓ | 1 | 400 | 6 | ℓ \ ℓ |
| 30.4 | S22 | 5475 | 5442 | 600 | 1.5 | ℓ – ℓ | 4 | | | |



* New in position of 5415.
** 5427,5431.
*** 5429,5427.
**** 5441 and mostly new.

Correction to October, 1959 report
Region 5439 new in position of 5394 age 1.

## CORONAL LINE EMISSION INDICES

### NOVEMBER 1959

| CMP Nov. 1959 | North East Quadrant (observed 7 days earlier) | | | | South East Quadrant (observed 7 days earlier) | | | | South West Quadrant (observed 7 days later) | | | | North West Quadrant (observed 7 days later) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | $G_6$ | $G_1$ | $R_6$ | $R_1$ | $G_6$ | $G_1$ | $R_6$ | $R_1$ | $G_6$ | $G_1$ | $R_6$ | $R_1$ | $G_6$ | $G_1$ | $R_6$ | $R_1$ |
| 1 | 78 | 145 | 12 | 30 | 79 | 149 | 13 | 36 | 66 | 92 | 11 | 24 | 89* | 160 | 12 | 24 |
| 2 | 97 | 136 | 26 | 37 | 131 | 321 | 53 | 71 | 59 | 80 | 6 | 10 | 78 | 98 | 19 | 42 |
| 3 | x | x | 54 | 92 | x | x | 40 | 80 | 44 | 68 | 3 | 4 | 94 | 124 | 13 | 26 |
| 4 | x | x | x | x | x | x | x | x | 45 | 78 | 7 | 12 | 140 | 152 | 22 | 48 |
| 5 | x | x | x | x | x | x | x | x | 26 | 45 | 4 | 10 | 97 | 154 | 21 | 79 |
| 6 | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x |
| 7 | 77 | 100 | 20 | 37 | 29 | 50 | 26 | 36 | 25 | 40 | 21 | 25 | 106 | 225 | 17 | 25 |
| 8 | 157a | 214a | 14 | 21 | 57a | 93a | x | x | 39 | 48 | 20 | 27 | 94 | 190 | 18 | 30 |
| 9 | 89a | 118a | 31a | 50a | 60a | 88a | 37a | 60a | 56 | 66 | 37 | 54 | 85 | 157 | 16 | 30 |
| 10 | 81 | 154 | 16 | 44 | 60 | 86 | 9 | 12 | 104 | 138 | 81 | 126 | 66 | 83 | 19 | 24 |
| 11 | 69 | 108 | 15 | 25 | 95 | 134 | 14 | 21 | x | x | x | x | x | x | x | x |
| 12 | 100* | 135 | 15 | 24 | 86* | 120 | 14 | 30 | 122 | 209 | x | x | 65 | 80 | x | x |
| 13 | 120* | 185 | 22 | 39 | 80* | 122 | 12 | 24 | 97 | 176 | 50 | 96 | 76 | 110 | 32 | 48 |
| 14 | 81 | 94 | 20 | 30 | 46 | 56 | 14 | 21 | 56 | 72 | 12 | 23 | 67* | 91 | 11 | 25 |
| 15 | 77 | 93 | 11 | 18 | 52 | 68 | 17 | 30 | x | x | x | x | x | x | x | x |
| 16 | 56 | 64 | 19a | 51a | 75 | 98 | 17a | 33a | x | x | x | x | x | x | x | x |
| 17 | 52 | 60 | 16 | 45 | 79 | 112 | 17 | 45 | 79 | 128 | 26 | 35 | 117 | 138 | 40 | 60 |
| 18 | 99 | 119 | 15 | 51 | 87 | 134 | 13 | 36 | 91 | 132 | 12 | 21 | 112 | 128 | 19 | 27 |
| 19 | 125 | 178 | 19 | 24 | 63 | 92 | 14 | 30 | 61 | 75 | x | x | 130 | 180 | x | x |
| 20 | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x |
| 21 | 84 | 106 | x | x | 50 | 82 | x | x | 69 | 104 | x | x | 101 | 168 | x | x |
| 22 | 112 | 164 | 14 | 25 | 78 | 118 | 23 | 39 | 92 | 124 | 19 | 33 | 118 | 181 | 18 | 42 |
| 23 | 97 | 124 | 27 | 54 | 95* | 146 | 22 | 30 | 98 | 149 | 12 | 20 | 98 | 170 | 6 | 14 |
| 24 | 155 | 196 | 47 | 84 | 131 | 181 | 50 | 107 | x | x | x | x | x | x | x | x |
| 25 | x | x | x | x | x | x | x | x | 71 | 110 | 42 | 96 | 118 | 190 | 22 | 48 |
| 26 | 97 | 145 | x | x | 54 | 77 | x | x | 50 | 88 | x | x | 99 | 154 | x | x |
| 27 | 110 | 163 | 29 | 39 | 42 | 56 | 24 | 40 | x | x | x | x | x | x | x | x |
| 28 | 88* | 140 | 19 | 42 | 26 | 40 | 2 | 3 | 36a | 44a | x | x | 156a | 337a | x | x |
| 29 | x | x | x | x | x | x | x | x | 79* | 137 | 14 | 19 | 109 | 136 | 30 | 82 |
| 30 | x | x | x | x | x | x | x | x | 112 | 172 | 26 | 56 | 154 | 184 | 77 | 102 |

COMMERCE - STANDARDS - BOULDER

a = index computed from low weight data. * = yellow line observed. x = no observations.

# SOLAR FLARES

## NOVEMBER 1959

| OBSERVATORY | DATE NOV 1959 | OBSERVED UNIVERSAL TIME START | OBSERVED UNIVERSAL TIME END | OBSERVED UNIVERSAL TIME MAX. PHASE | LOCATION APPROX. LAT. | LOCATION APPROX. MER. DIST. | LOCATION McMATH PLAGE REGION | DURATION — MINUTES | IMPORTANCE | OBS. COND. | MEASUREMENTS TIME — U T | MEAS. AREA Sq. Deg. | CORR. AREA Sq. Deg. | MAX. WIDTH Ha | MAX. INT. % | PROVISIONAL IONOSPHERIC EFFECT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NIZAMIAH | 01 | 0550 | 0557 | 0552 | N14 | W30 | 5439 | 7 | 1 | 2 | 0552 | 2.43 | 2.81 | 1.50 | | |
| ONDREJOV | 01 | 0958 E | 1010 | | N16 | W34 | 5439 | 12 D | 1 | 3 | 1000 | | | 3.00 | | |
| LOCARNO | 01 | 0959 | 1030 | 1010 | N15 | W35 | 5439 | 31 | 2- | 2 | 1010 | | 3.00 | | | |
| LOCARNO | 01 | 1010 | 1035 | | N14 | E20 | 5445 | 25 | 1 | 2 | 1020 | | 1.00 | | | |
| ARCETRI | 02 | 0830 E | 0947 D | | N25 | E47 | 5446 | 77 D | 1 | 3 | 0903 | 2.00 | 3.00 | | | |
| ARCETRI | 02 | 0847 E | | | N20 | W17 | 5441 | | 1 | 3 | | | | | | |
| ZURICH | 02 | 1034 | 1040 | | N20 | W17 | 5441 | 6 | 1 | 3 | 1034 | | 2.00 | | | |
| WENDEL | 03 | 1048 | 1108 | | N21 | W26 | 5441 | 20 | 1 | | | | 4.00 | | | |
| WENDEL | 03 | 1113 | 1152 | | N24 | E30 | 5446 | 39 | 1& | | | | 7.00 | | | |
| CAPRI S | 03 | 1504 E | 1540 D | | N13 | W65 | 5439 | 36 D | 1 | 2 | 1517 | 1.00 | 2.00 | | | |
| LOCARNO | 04 | 0800 E | 0812 | | N26 | E23 | 5446 | 12 D | 1 | 2 | | | | | | |
| WENDEL | 04 | 1010 | 1022 | | N14 | W76 | 5439 | 12 | 1& | | | | 6.00 | | | |
| HAWAII | 04 | 1840 | 1856 | 1848 | N22 | E22 | 5446 | 16 | 1 | 3 | 1848 | 2.80 | 3.10 | | | |
| HUANCAYO | 04 | 2048 E | 2100 | 2048 | N16 | W75 | 5439 | 12 D | 1 | 1 | 2048 | 1.20 | 4.20 | 2.20 | | Slow S-SWF |
| HAWAII | 04 | 2120 | 2124 D | 2122 | S28 | E90 | 5452 | 4 D | 1& | 2 | 2122 | 1.60 | | | | |
| HAWAII | 04 | 2248 | 2256 D | 2250 | S28 | E90 | 5452 | 8 D | 2 | 2 | 2250 | 2.30 | | | | |
| HUANCAYO | 05 | 1502 | 1704 D | 1502 | S19 | E78 | 5452 | 122 D | 1& | 3 | 1502 | 2.90 | 14.10 | 3.50 | | |
| HAWAII | 05 | 1956 E | 2228 D | 2102 | N26 | E14 | 5446 | 152 D | 1& | 3 | 2102 | 4.60 | 5.10 | | | |
| HAWAII | 06 | 0128 | 0200 D | 0138 | N25 | E00 | 5446 | 32 D | 1& | 3 | 0138 | 4.10 | 4.40 | | | |
| NIZAMIAH | 06 | 0315 | 0325 | 0319 | S19 | E62 | 5452 | 10 | 1 | 2 | 0319 | 1.22 | 2.92 | 1.60 | | |
| CAPRI S | 06 | 0818 E | 0844 D | | S17 | E67 | 5452 | 26 D | 2 | 1 | 0823 | 3.50 | 8.40 | | | |
| HUANCAYO | 06 | 1515 E | 1552 | 1515 | S17 | E65 | 5452 | 37 D | 1 | 2 | 1515 | 1.40 | 3.50 | 3.50 | | |
| HUANCAYO | 06 | 1614 | 1635 | 1619 | N26 | W03 | 5446 | 21 | 1 | 2 | 1616 | 3.10 | 3.1 | 1.90 | | |
| ARCETRI | 07 | 0829 E | | | S18 | E53 | 5452 | | 1 | 3 | | | | | | |
| ARCETRI | 07 | 0842 E | 0918 D | | N26 | W16 | 5446 | 36 D | 1 | 3 | | | | | | |
| ARCETRI | 07 | 0859 E | 0918 D | | N22 | W21 | 5446 | 19 D | 1 | 3 | | | | | | |
| MITAKA | 08 | 0313 E | 0342 | 0318 | S22 | E40 | 5452 | 29 D | 1 | 1 | 0313 | 1.28 | 1.99 | 2.49 | 125 | |
| MITAKA | 08 | 2345 E | 0002 | 2349 | S19 | E28 | 5452 | 17 D | 1 | 1 | 2349 | 2.16 | 2.66 | 2.93 | 120 | |
| MITAKA | 09 | 0028 E | 0042 | | N20 | W90 | 5441 | 14 D | 1 | 1 | 0037 | 2.95 | | 2.10 | | |
| MITAKA | 09 | 0053 | 0129 | 0056 | S15 | E29 | 5452 | 36 | 2 | 1 | 0056 | 4.42 | 5.44 | 3.01 | 180 | |
| NIZAMIAH | 10 | 0433 | 0441 | 0436 | S18 | E16 | 5452 | 8 | 1 | 3 | 0436 | 2.13 | 2.38 | 1.50 | | |
| SAC PEAK | 10 | 1634 | 1754 U | 1648 | S17 | E08 | 5452 | 80 U | 1 | 2 | | 2.91 | | | 20 | S-SWF |
| HUANCAYO | 10 | 1637 | 1706 | 1638 | S15 | E08 | 5452 | 29 | 1 | 2 | 1638 | 3.20 | 3.40 | 3.40 | | |
| HAWAII | 10 | 1836 | 2122 | 1910 | S18 | E02 | 5452 | 166 | 1& | 3 | 1910 | 3.90 | 4.20 | | | Slow S-SWF |
| SAC PEAK | 10 | 1846 | 2120 | 1904 U | S16 | E05 | 5452 | 154 | 1& | 2 | | 3.91 | | | 26 | |
| HAWAII | 10 | 1930 | 1950 | 1938 | S02 | E90 | 5458 | 20 | 1& | 3 | 1938 | .90 | | | | |
| LOCARNO | 11 | 1115 E | 1138 | | S16 | E25 | 5454 | 23 D | 1& | 2 | 1120 | | 4.00 | | | |
| LOCARNO | 11 | 1220 E | 1240 | | S16 | W04 | 5452 | 20 D | 1 | 2 | | | | | | |
| LOCARNO | 11 | 1350 | 1400 | | S17 | W00 | 5452 | 10 | 1 | 2 | | | | | | |
| STOCKHOLM | 12 | 0905 E | 0923 D | | S14 | W15 | 5452 | 18 D | 1 | 1 | | 2.00 | 2.00 | | | |
| WENDEL | 12 | 1256 | 1301 D | | S16 | E19 | 5454 | 5 D | 1 | | | | 3.00 | | | |
| MITAKA | 14 | 0216 E | 0234 | | S18 | W37 | 5452 | 18 D | 1 | 1 | 0226 | 3.35 | 4.42 | 2.63 | 107 | |

# SOLAR FLARES

## NOVEMBER 1959

| OBSERVATORY | DATE NOV 1959 | OBSERVED UNIVERSAL TIME START | END | MAX. PHASE | LOCATION APPROX. LAT. | MER. DIST. | McMATH PLAGE REGION | DURATION — MINUTES | IMPORTANCE | OBS. COND. | MEASUREMENTS TIME — U T | MEAS. AREA Sq. Deg. | CORR. AREA Sq. Deg. | MAX. WIDTH Ha | MAX. INT. % | PROVISIONAL IONOSPHERIC EFFECT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MITAKA | 14 | 0502 E | 0526 D | | S15 | W42 | 5452 | 24 D | 1 | 1 | 0502 | 2.95 | 4.00 | 2.33 | 105 | S-SWF |
| WENDEL | 14 | 0844 | 0912 | | S17 | W21 | 5454 | 28 | 1 | | | | 3.00 | | | |
| ZURICH | 14 | 0855 E | 0904 | | S14 | W22 | 5454 | 9 D | 1 | 2 | 0855 | | 2.00 | | | |
| WENDEL | 14 | 1218 | 1255 D | | S17 | W38 | 5452 | 37 D | 1 | | | | 4.00 | | | |
| HAWAII | 14 | 2132 | 2154 | 2138 | S07 | W53 | 5452 | 22 | 1& | 3 | 2138 | 4.10 | 6.90 | | | |
| HAWAII | 14 | 2322 | 2342 | 2330 | N22 | W08 | 5457 | 20 | 1 | 3 | 2330 | 3.00 | 3.20 | | | |
| MITAKA | 15 | 0352 E | 0420 | | N22 | W13 | 5457 | 28 D | 1 | 1 | 0353 | 2.95 | 3.18 | 1.92 | 91 | |
| MITAKA | 15 | 0410 E | 0416 | | S16 | W52 | 5452 | 6 D | 1 | 1 | 0410 | .98 | 1.53 | 2.58 | 107 | |
| NIZAMIAH | 15 | 0914 | 0922 | 0918 | S16 | W49 | 5452 | 8 | 1 | 3 | 0918 | 1.82 | 2.94 | 1.60 | | |
| HAWAII | 15 | 2328 E | 2338 D | 2330 | S01 | E72 | 5463 | 10 D | 1 | 2 | 2330 | 2.10 | 6.50 | | | |
| HAWAII | 16 | 0030 | 0118 | 0032 | N06 | E50 | 5461 | 48 | 1& | 2 | 0032 | 4.00 | 6.10 | | | |
| LOCARNO | 16 | 1230 E | 1250 | | S23 | W48 | 5454 | 20 D | 1 | 2 | | | | | | |
| HAWAII | 17 | 0008 E | 0200 D | 0048 | N14 | E22 | 5461 | 112 D | 2& | 3 | 0048 | 11.10 | 12.20 | | | |
| MITAKA | 17 | 0308 E | 0318 | | S17 | W48 | 5454 | 10 D | 1 | 1 | 0308 | 1.18 | 1.84 | 2.33 | 91 | |
| MITAKA | 17 | 0512 | 0527 | | N03 | W05 | 5458 | 15 | 1 | 1 | 0516 | .98 | .98 | 2.10 | 107 | |
| WENDEL | 17 | 0905 | 0940 D | | N08 | W09 | 5458 | 35 D | 1& | | | | 6.00 | | | |
| CAPRI S | 17 | 0923 | 0958 D | | S15 | W53 | 5454 | 35 D | 1& | 2 | 0943 | 3.20 | 5.00 | | | |
| WENDEL | 17 | 0923 | 1003 | 0941 | S17 | W54 | 5454 | 40 | 2 | | | | 11.00 | | | |
| NIZAMIAH | 17 | 0935 | 0953 | 0940 | S14 | W57 | 5454 | 18 | 1 | 2 | 0940 | 2.12 | 3.95 | 2.10 | | |
| HAWAII | 18 | 2326 | 2426 | 2332 | N28 | W66 | 5457 | 60 | 2 | 3 | 2332 | 8.20 | 19.00 | | | Slow S-SWF |
| LOCARNO | 19 | 0805 E | 0910 | | N16 | E80 | 5468 | 65 D | 1 | 2 | | | | | | |
| SAC PEAK | 21 | 1734 | 1914 | 1746 | N20 | W30 | 5462 | 100 | 1& | 1 | | 4.80 | | | 17 | |
| HAWAII | 21 | 1800 E | 1928 D | 1820 | N23 | W28 | 5462 | 88 D | 1 | 3 | 1820 | 3.00 | 3.70 | | | |
| LOCARNO | 22 | 1200 E | 1230 | | N18 | E41 | 5468 | 30 D | 1 | 2 | | | | | | |
| WENDEL | 22 | 1203 | 1220 | | N20 | E40 | 5468 | 17 | 1 | | | | 3.00 | | | |
| SAC PEAK | 22 | 1432 E | 1444 U | 1432 U | N22 | E46 | 5468 | 12 U | 1 | 2 | | 2.33 | | | 15 | |
| LOCARNO | 23 | 0935 | 0955 | 0945 | N24 | E83 | 5471 | 20 | 1 | 1 | | | | | | |
| WENDEL | 23 | 1209 E | 1224 D | | N26 | E85 | 5471 | 15 D | 1 | | | | | | | |
| WENDEL | 23 | 1251 E | 1309 D | | N25 | E32 | 5468 | 18 D | 1 | | | | 4.00 | | | |
| LOCARNO | 23 | 1415 | 1435 | | N25 | E33 | 5468 | 20 | 1 | 1 | 1420 | | 1.00 | | | |
| WENDEL | 24 | 0814 | 0826 | | N25 | E65 | 5471 | 12 | 1 | | | | 3.00 | | | |
| WENDEL | 25 | 0936 | 0954 D | | N23 | E50 | 5471 | 18 D | 1 | | | | 3.00 | | | |
| WENDEL | 25 | 1006 | 1032 | | N22 | E50 | 5471 | 26 | 1 | | | | 3.00 | | | |
| WENDEL | 25 | 1017 | 1030 | | N22 | E43 | 5471 | 13 | 1 | | | | 3.00 | | | |
| WENDEL | 25 | 1118 | 1136 | | N10 | E85 | 5476 | 18 | 1 | | | | 3.00 | | | |
| WENDEL | 25 | 1154 | 1209 | | N11 | E73 | 5476 | 15 | 1& | | | | 6.00 | | | |
| WENDEL | 25 | 1214 | 1306 D | | N26 | E22 | 5473 | 52 D | 2 | | | | 10.00 | | | |
| WENDEL | 26 | 0746 | 0827 | | N11 | E63 | 5476 | 41 | 2 | | | | 11.00 | | | |
| WENDEL | 26 | 0828 | 0843 | | N12 | E71 | 5476 | 15 | 1& | | | | 5.00 | | | |
| WENDEL | 26 | 0926 | 1050 D | 0940 | S15 | W14 | 5467 | 84 D | 2& | | | | 21.00 | | | S-SWF |
| NIZAMIAH | 26 | 0932 E | 1007 | 0939 | S12 | W22 | 5467 | 35 D | 1& | 2 | 0939 | 3.65 | 4.02 | 2.70 | | |
| WENDEL | 26 | 1043 | 1053 | | N15 | W00 | 5468 | 10 | 1 | | | | 4.00 | | | |

# SOLAR FLARES

## NOVEMBER 1959

| OBSERVATORY | DATE NOV 1959 | OBSERVED UNIVERSAL TIME START | END | MAX. PHASE | LOCATION APPROX. LAT. | MER. DIST. | McMATH PLAGE REGION | DURATION — MINUTES | IMPORTANCE | OBS. COND. | MEASUREMENTS TIME — U T | MEAS. AREA Sq. Deg. | CORR. AREA Sq. Deg. | MAX. WIDTH Hα | MAX. INT. % | PROVISIONAL IONOSPHERIC EFFECT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WENDEL | 26 | 1052 | 1156 D | | S14 | W18 | 5467 | 64 D | 1 | | | | 3.00 | | | |
| SAC PEAK | 26 | 2124 | 2206 | 2128 | S14 | W29 | 5467 | 42 | 1 | 2 | | 2.91 | | | 20 | |
| HAWAII | 26 | 2127 E | 2142 D | | S10 | W33 | 5467 | 15 D | 1 | 2 | 2127 | 2.60 | 3.10 | | | |
| CAPRI S | 27 | 1128 | 1143 | | N10 | E62 | 5476 | 15 | 1 | 3 | 1139 | 1.80 | 3.90 | | | |
| CAPRI S | 27 | 1214 E | 1307 D | | N19 | E30 | 5471 | 53 D | 1 | 3 | 1226 | 2.50 | 2.80 | | | |
| CAPRI S | 27 | 1227 E | 1259 | | N10 | E60 | 5476 | 32 D | 1 | 3 | 1244 | 1.80 | 3.80 | | | |
| CAPRI S | 27 | 1346 E | 1426 D | | N10 | E60 | 5476 | 40 D | 1 | 3 | 1413 | 1.50 | 3.00 | | | |
| DUNSINK | 27 | 1406 | 1427 | | N14 | E65 | 5476 | 21 | 1 | 1 | 1414 | 1.00 | 2.37 | 2.37 | | |
| CAPRI S | 27 | 1428 | 1502 D | | N22 | W17 | 5468 | 34 D | 1 | 3 | 1434 | 2.30 | 2.50 | | | |
| HAWAII | 27 | 2106 | 2116 | 2108 | N18 | W21 | 5468 | 10 | 1 | 3 | 2108 | 2.70 | 3.00 | | | |
| MITAKA | 28 | 0404 E | 0425 D | | N12 | E51 | 5476 | 21 D | 1 | 1 | 0420 | .98 | 1.62 | 2.10 | 93 | |
| MITAKA | 28 | 0408 E | 0424 | | S17 | W46 | 5467 | 16 D | 1 | 1 | 0411 | 1.97 | 2.92 | 2.09 | 89 | |
| WENDEL | 28 | 0810 E | 0827 D | | N09 | E36 | 5476 | 17 D | 1 | | | | 4.00 | | | |
| WENDEL | 28 | 0810 E | 0834 D | | N22 | E21 | 5471 | 24 D | 1 | | | | 4.00 | | | |
| WENDEL | 28 | 0916 E | 1008 D | | S18 | W48 | 5467 | 52 D | 1 | | | | 4.00 | | | |
| WENDEL | 28 | 1058 E | 1137 D | | N10 | E35 | 5476 | 39 D | 1 | | | | 4.00 | | | |
| WENDEL | 28 | 1207 | 1238 D | | N10 | E33 | 5476 | 31 D | 2 | | | | 12.00 | | | |
| CAPRI S | 28 | 1212 E | 1327 D | | N10 | E32 | 5476 | 75 D | 2& | 1 | 1234 | 4.00 | 5.10 | | | |
| SAC PEAK | 28 | 1522 | 1552 | 1528 | N27 | E02 | 5471 | 30 | 1 | 2 | | 3.78 | | | 15 | |
| SAC PEAK | 28 | 2010 | 2126 | 2020 | N10 | E30 | 5476 | 76 | 3 | 2 | | 15.79 | | | 35 | Slow S-SWF |
| HAWAII | 28 | 2020 E | 2110 D | | N16 | E32 | 5476 | 50 D | 2 | 1 | 2020 | 9.50 | 11.40 | | | |
| HAWAII | 28 | 2330 E | 2348 D | | N16 | E31 | 5476 | 18 D | 1 | 1 | 2334 | 2.50 | 3.00 | | | |
| WENDEL | 29 | 0834 E | 0935 D | | N10 | E22 | 5476 | 61 D | 1& | | | | 7.00 | | | |
| MCMATH | 29 | 1345 E | 1455 | | N10 | E21 | 5476 | 70 D | 2 | 2 | 1355 | | 5.00 | | | Slow S-SWF |
| HAWAII | 29 | 1816 | 2012 | 1852 | N10 | E20 | 5476 | 116 | 2 | 3 | 1852 | 6.20 | 6.60 | | | S-SWF |
| SAC PEAK | 29 | 1828 | 1952 | 1855 U | N10 | E17 | 5476 | | 2& | 3 | | 9.74 | | | 35 | |
| HAWAII | 29 | 2348 E | 2440 D | | N07 | E15 | 5476 | 52 D | 1& | 1 | 2350 | 3.70 | 3.90 | | | |
| MITAKA | 30 | 0059 E | 0106 D | | N11 | E21 | 5476 | 7 D | 1 | 1 | 0059 | .49 | .53 | 2.32 | 96 | |
| MITAKA | 30 | 0150 | 0238 | | N10 | E14 | 5476 | 48 | 1 | 1 | 0155 | 4.92 | 5.12 | 1.66 | 98 | |
| MITAKA | 30 | 0247 | 0356 | 0250 | N08 | E16 | 5476 | 69 | 2& | 1 | 0254 | 7.86 | 8.17 | 12.84 | 251 | S-SWF |
| WENDEL | 30 | 0909 | 0929 D | | N11 | E16 | 5476 | 20 D | 1& | | | | 5.00 | | | |
| ONDREJOV | 30 | 1127 E | 1152 D | | N12 | E07 | 5476 | 25 D | 2 | 1 | 1128 | | | 3.10 | | |
| ONDREJOV | 30 | 1152 E | 1215 D | | N22 | E35 | 5477 | 23 D | 1& | 1 | | | | | | |
| SAC PEAK | 30 | 1606 | 1620 | 1612 | N10 | E12 | 5476 | 14 | 1 | 3 | | 2.33 | | | 16 | |
| MCMATH | 30 | 1720 | 1746 D | 1745 | N07 | E07 | 5476 | 26 D | 3 | 2 | 1745 | | 12.00 | | | |
| SAC PEAK | 30 | 1722 | 1902 | 1744 | N08 | E06 | 5476 | 100 | 3 | 3 | | 22.64 | | | 30 | S-SWF |
| HAWAII | 30 | 1748 E | 1906 | | N09 | E06 | 5476 | 78 D | 2& | 1 | 1749 | 11.80 | 11.90 | | | |

COMMERCE - STANDARDS - BOULDER

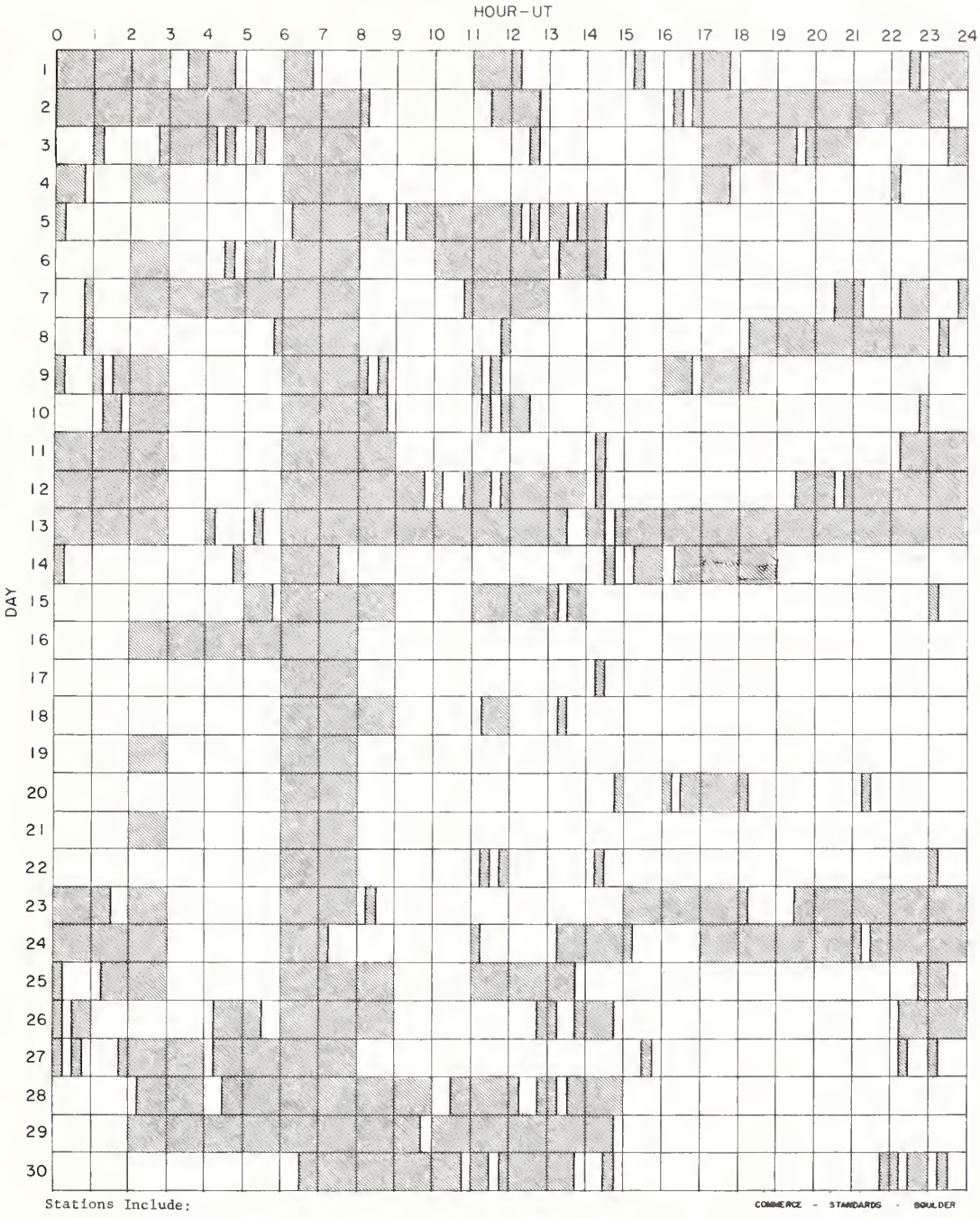
CAPRI G ANACAPRI - GERMAN
CAPRI S ANACAPRI - SWEDISH
GOOD HOPE ROYAL OBSERVATORY, CAPE OF GOOD HOPE
KIEV* KIEV UNIVERSITY
KODAIKNAL KODAIKANAL
KRASNYA KRASNAYA PAKHRA
LOCKHEED LOS ANGELES
MOSCOW-G MOSCOW - GAISH
R O EDIN ROYAL OBSERVATORY, EDINBURGH
R O HERST GREENWICH ROYAL OBSERVATORY, HERSTMONCEUX
SAC PEAK SACRAMENTO PEAK
SCHAUINS SCHAUINSLAND
USNRL UNITED STATES NAVAL RESEARCH LABORATORY

SAC PEAK: ALL VALUES IN MAX. INT. COLUMN ARE ARBITRARY UNITS (0-40), NOT PERCENT OF CONTINUOUS SPECTRUM.
E - LESS THAN & - PLUS
D - GREATER THAN - - MINUS
U - APPROXIMATE ☐ - NOT REPORTED

LOCKHEED OBSERVATIONS: ALL VALUES IN THE MAXIMUM INTENSITY COLUMN ARE ARBITRARY UNITS ON A SCALE OF 1 TO 4 - NOT PERCENT OF THE CONTINUOUS SPECTRUM.

# INTERVALS OF NO FLARE PATROL OBSERVATIONS

## NOVEMBER 1959




Stations Include:

Anacapri (Swedish)
Arcetri
Dunsink
Hawaii
Huancayo
Locarno
McMath
Meudon
Mitaka
Nizamiah
Ondrejov
Royal Greenwich Observatory
Herstmonceux
Sacramento Peak
Zurich

# SUBFLARES

## Noted as follows: Date-Universal Time-Coordinates

### OCTOBER 1959

| | | | | |
|---|---|---|---|---|
| HAWAII | 01 | 0004 | N16 | E00 |
| WENDEL | 01 | 0659 | E N09 | E05 |
| MCMATH | 01 | 1246 | S17 | E60 |
| MCMATH | 01 | 1350 | E S18 | E64 |
| MCMATH | 01 | 1620 | E N13 | E07 |
| LOCKHEED | 01 | 1627 | N13 | E07 |
| LOCKHEED | 01 | 1639 | S17 | E63 |
| MCMATH | 01 | 1640 | E S17 | E62 |
| LOCKHEED | 01 | 1650 | N31 | E61 |
| LOCKHEED | 01 | 1724 | S17 | E65 |
| MCMATH | 01 | 1838 | N30 | E62 |
| LOCKHEED | 01 | 1838 | N31 | E62 |
| MCMATH | 01 | 1852 | S18 | E61 |
| SAC PEAK | 01 | 1858 | E S19 | E60 |
| LOCKHEED | 01 | 1944 | N17 | E29 |
| LOCKHEED | 01 | 2235 | N09 | W33 |
| LOCKHEED | 01 | 2305 | N09 | W33 |
| | | | | |
| MCMATH | 02 | 1234 | E N09 | W41 |
| MCMATH | 02 | 1325 | N09 | W41 |
| LOCKHEED | 02 | 1600 | N31 | E51 |
| LOCKHEED | 02 | 1615 | N15 | W09 |
| MCMATH | 02 | 1752 | N14 | W10 |
| LOCKHEED | 02 | 1752 | N16 | W11 |
| HAWAII | 02 | 1754 | N17 | W09 |
| LOCKHEED | 02 | 1823 | N31 | E51 |
| LOCKHEED | 02 | 1830 | N15 | W12 |
| LOCKHEED | 02 | 2020 | N18 | E17 |
| LOCKHEED | 02 | 2125 | N31 | E46 |
| LOCKHEED | 02 | 2300 | S18 | E41 |
| LOCKHEED | 02 | 2315 | N08 | W47 |
| | | | | |
| LOCKHEED | 03 | 0030 | N09 | W47 |
| MCMATH | 03 | 1405 | E N06 | W56 |
| LOCKHEED | 03 | 1618 | N11 | W55 |
| LOCKHEED | 03 | 1625 | N16 | 000 |
| LOCKHEED | 03 | 1806 | N09 | W56 |
| LOCKHEED | 03 | 1810 | S17 | E49 |
| HAWAII | 03 | 1816 | N15 | W55 |
| MCMATH | 03 | 1818 | N06 | W57 |
| LOCKHEED | 03 | 1830 | S09 | E33 |
| MCMATH | 03 | 1833 | S09 | E36 |
| HAWAII | 03 | 1834 | S11 | E32 |
| LOCKHEED | 03 | 2140 | N08 | W62 |
| LOCKHEED | 03 | 2206 | N04 | E67 |
| | | | | |
| LOCKHEED | 04 | 0007 | N07 | W60 |
| HAWAII | 04 | 0102 | E S26 | E28 |
| HAWAII | 04 | 0150 | S22 | E26 |
| WENDEL | 04 | 1311 | E S19 | E16 |
| WENDEL | 04 | 1409 | E S19 | E16 |
| WENDEL | 04 | 1525 | E NU7 | W65 |
| WENDEL | 04 | 1525 | E S17 | E36 |
| LOCKHEED | 04 | 1618 | E S19 | E37 |
| LOCKHEED | 04 | 1635 | S09 | W40 |
| LOCKHEED | 04 | 1640 | S17 | E13 |
| LOCKHEED | 04 | 1707 | S17 | E35 |
| LOCKHEED | 04 | 1738 | S16 | E13 |
| LOCKHEED | 04 | 1745 | N21 | E43 |
| LOCKHEED | 04 | 1822 | S17 | E34 |
| LOCKHEED | 04 | 1825 | S14 | E21 |
| LOCKHEED | 04 | 1830 | S11 | E24 |
| LOCKHEED | 04 | 1925 | S09 | W39 |
| LOCKHEED | 04 | 1952 | S17 | E33 |
| SAC PEAK | 04 | 1958 | E S18 | E34 |
| LOCKHEED | 04 | 2008 | S18 | E13 |
| LOCKHEED | 04 | 2055 | S15 | E13 |
| LOCKHEED | 04 | 2109 | S17 | E31 |
| LOCKHEED | 04 | 2203 | S17 | E32 |
| SAC PEAK | 04 | 2210 | S18 | E33 |
| LOCKHEED | 04 | 2227 | S17 | E15 |
| HAWAII | 04 | 2236 | S20 | E12 |
| SAC PEAK | 04 | 2240 | E S18 | E15 |
| * SAC PEAK | 04 | 2300 | S17 | E09 |
| | | | | |
| WENDEL | 05 | 0836 | E N04 | E45 |
| WENDEL | 05 | 0907 | E S19 | E04 |
| WENDEL | 05 | 0925 | E N02 | E41 |
| WENDEL | 05 | 1012 | E S16 | E09 |
| WENDEL | 05 | 1019 | E N10 | W50 |
| WENDEL | 05 | 1149 | E N03 | E41 |
| WENDEL | 05 | 1320 | E S09 | W48 |
| SAC PEAK | 05 | 1510 | S20 | E00 |
| WENDEL | 05 | 1511 | E S20 | E01 |
| LOCKHEED | 05 | 1545 | N06 | W58 |
| * SAC PEAK | 05 | 1556 | N03 | E37 |
| * LOCKHEED | 05 | 1556 | N03 | E37 |
| * LOCKHEED | 05 | 1609 | N06 | E42 |
| * LOCKHEED | 05 | 1611 | S10 | W55 |
| * SAC PEAK | 05 | 1612 | S10 | W56 |
| LOCKHEED | 05 | 1632 | N02 | E36 |
| LOCKHEED | 05 | 1643 | S17 | E20 |
| SAC PEAK | 05 | 1812 | N13 | W35 |
| LOCKHEED | 05 | 1905 | N08 | W60 |
| LOCKHEED | 05 | 1914 | N24 | E34 |
| LOCKHEED | 05 | 1934 | N13 | W37 |
| HAWAII | 05 | 1936 | N18 | W36 |
| SAC PEAK | 05 | 1936 | N13 | W37 |
| LOCKHEED | 05 | 2008 | S18 | E19 |
| LOCKHEED | 05 | 2120 | N05 | E38 |
| LOCKHEED | 05 | 2147 | N02 | E36 |
| LOCKHEED | 05 | 2155 | S10 | E10 |
| LOCKHEED | 05 | 2345 | N06 | E37 |
| | | | | |
| HAWAII | 06 | 0116 | S18 | W07 |
| ARCETRI | 06 | 0812 | E N08 | W67 |
| WENDEL | 06 | 0827 | E N08 | W62 |
| * SAC PEAK | 06 | 1410 | E N31 | E66 |
| SAC PEAK | 06 | 1442 | N07 | W70 |
| * SAC PEAK | 06 | 1556 | N08 | E25 |
| LOCKHEED | 06 | 1600 | N07 | W78 |
| LOCKHEED | 06 | 1610 | S18 | W15 |
| LOCKHEED | 06 | 1638 | N07 | E78 |
| LOCKHEED | 06 | 1657 | N06 | E26 |
| LOCKHEED | 06 | 1742 | S16 | E04 |
| LOCKHEED | 06 | 1743 | N07 | W75 |
| LOCKHEED | 06 | 1750 | S21 | E07 |
| LOCKHEED | 06 | 1818 | N30 | E63 |
| LOCKHEED | 06 | 1833 | N30 | E63 |
| LOCKHEED | 06 | 1848 | N07 | W75 |
| LOCKHEED | 06 | 1915 | N32 | E63 |
| LOCKHEED | 06 | 1947 | N32 | E63 |
| * LOCKHEED | 06 | 1954 | N30 | E63 |
| LOCKHEED | 06 | 1955 | N07 | W75 |
| LOCKHEED | 06 | 2054 | N30 | E61 |
| LOCKHEED | 06 | 2110 | N08 | W77 |
| LOCKHEED | 06 | 2133 | N31 | E60 |
| SAC PEAK | 06 | 2136 | N29 | E61 |
| LOCKHEED | 06 | 2146 | N06 | E22 |
| SAC PEAK | 06 | 2150 | N04 | E22 |
| LOCKHEED | 06 | 2203 | N31 | E60 |
| LOCKHEED | 06 | 2233 | N31 | E60 |
| SAC PEAK | 06 | 2236 | N29 | E62 |
| LOCKHEED | 06 | 2250 | N08 | W77 |
| LOCKHEED | 06 | 2253 | N31 | E60 |
| | | | | |
| LOCKHEED | 07 | 0013 | N31 | E60 |
| LOCKHEED | 07 | 0014 | N07 | W77 |
| ARCETRI | 07 | 0830 | E N29 | E54 |
| WENDEL | 07 | 1040 | E N30 | E51 |
| WENDEL | 07 | 1210 | E N08 | E21 |
| WENDEL | 07 | 1303 | E N31 | E52 |
| * SAC PEAK | 07 | 1426 | N31 | E52 |
| SAC PEAK | 07 | 1446 | N08 | W89 |
| * SAC PEAK | 07 | 1458 | N31 | E52 |
| SAC PEAK | 07 | 1516 | N07 | E18 |
| WENDEL | 07 | 1521 | E N08 | E19 |
| LOCKHEED | 07 | 1602 | S18 | W90 |
| SAC PEAK | 07 | 1606 | S19 | W90 |
| SAC PEAK | 07 | 1634 | S16 | W24 |
| LOCKHEED | 07 | 1650 | N08 | E18 |
| LOCKHEED | 07 | 1655 | N30 | E50 |
| LOCKHEED | 07 | 1707 | S17 | W22 |
| LOCKHEED | 07 | 1741 | N31 | E51 |
| LOCKHEED | 07 | 1753 | N06 | E15 |
| LOCKHEED | 07 | 1755 | S18 | W90 |
| LOCKHEED | 07 | 1830 | S11 | W19 |
| LOCKHEED | 07 | 1847 | N08 | E16 |
| LOCKHEED | 07 | 1910 | S18 | W90 |
| SAC PEAK | 07 | 1926 | N30 | E50 |
| LOCKHEED | 07 | 1928 | N32 | E51 |
| SAC PEAK | 07 | 2018 | S19 | W90 |
| LOCKHEED | 07 | 2105 | S20 | W14 |
| SAC PEAK | 07 | 2130 | N30 | E50 |
| LOCKHEED | 07 | 2130 | N30 | E49 |
| HAWAII | 07 | 2134 | N24 | E52 |
| LOCKHEED | 07 | 2139 | S19 | W90 |
| LOCKHEED | 07 | 2155 | N09 | W90 |
| LOCKHEED | 07 | 2258 | S19 | W90 |
| LOCKHEED | 07 | 2320 | N09 | W90 |
| LOCKHEED | 07 | 2337 | N31 | E50 |
| * LOCKHEED | 07 | 2357 | N31 | E50 |
| | | | | |
| WENDEL | 08 | 0746 | E S17 | W34 |
| WENDEL | 08 | 0823 | E S17 | W34 |
| LOCKHEED | 08 | 1604 | E S16 | W40 |
| LOCKHEED | 08 | 1707 | S18 | W38 |
| SAC PEAK | 08 | 1710 | S18 | W37 |
| LOCKHEED | 08 | 1724 | N16 | W61 |
| SAC PEAK | 08 | 1736 | N06 | E06 |
| LOCKHEED | 08 | 1742 | N07 | E06 |
| LOCKHEED | 08 | 1844 | N16 | W61 |
| LOCKHEED | 08 | 1848 | N03 | W09 |
| LOCKHEED | 08 | 1850 | S11 | W50 |
| SAC PEAK | 08 | 1852 | N01 | W09 |
| LOCKHEED | 08 | 1857 | N06 | 000 |
| LOCKHEED | 08 | 2118 | S21 | E01 |
| LOCKHEED | 08 | 2206 | S21 | E90 |
| LOCKHEED | 08 | 2220 | S10 | W31 |
| LOCKHEED | 08 | 2355 | N07 | E01 |
| | | | | |
| WENDEL | 09 | 1050 | E N01 | W18 |
| WENDEL | 09 | 1246 | E N08 | W11 |
| WENDEL | 09 | 1253 | E N01 | W19 |
| SAC PEAK | 09 | 1438 | N08 | W10 |
| SAC PEAK | 09 | 1550 | N07 | W13 |
| LOCKHEED | 09 | 1554 | E N03 | W20 |
| LOCKHEED | 09 | 1640 | N17 | W78 |
| LOCKHEED | 09 | 1702 | N31 | E22 |
| LOCKHEED | 09 | 1730 | N01 | W23 |
| LOCKHEED | 09 | 1755 | S17 | W36 |
| LOCKHEED | 09 | 1925 | S10 | W44 |
| SAC PEAK | 09 | 1954 | S11 | W45 |
| HAWAII | 09 | 1958 | S04 | W46 |
| LOCKHEED | 09 | 2012 | N00 | W21 |
| HAWAII | 09 | 2028 | N08 | W16 |
| LOCKHEED | 09 | 2122 | N06 | W16 |
| SAC PEAK | 09 | 2122 | N05 | W16 |
| HAWAII | 09 | 2124 | N08 | W18 |
| LOCKHEED | 09 | 2144 | N01 | W26 |
| SAC PEAK | 09 | 2144 | N00 | W26 |
| HAWAII | 09 | 2146 | N05 | W25 |
| * SAC PEAK | 09 | 2230 | N05 | W18 |
| | | | | |
| WENDEL | 10 | 0651 | E N05 | W23 |
| ARCETRI | 10 | 0839 | E N31 | E13 |
| WENDEL | 10 | 0840 | E N32 | E12 |
| WENDEL | 10 | 1131 | E S17 | W46 |
| MCMATH | 10 | 1300 | E S17 | W44 |
| MCMATH | 10 | 1300 | E N06 | W30 |
| MCMATH | 10 | 1352 | N08 | W34 |
| SAC PEAK | 10 | 1432 | N22 | W22 |
| MCMATH | 10 | 1435 | N21 | W21 |
| MCMATH | 10 | 1542 | S17 | W48 |
| SAC PEAK | 10 | 1600 | S18 | W50 |
| MCMATH | 10 | 1602 | S17 | W48 |
| MCMATH | 10 | 1602 | N07 | W30 |
| LOCKHEED | 10 | 1615 | E S10 | E79 |
| LOCKHEED | 10 | 1629 | S16 | W50 |
| SAC PEAK | 10 | 1648 | S10 | E80 |
| SAC PEAK | 10 | 1818 | S18 | W50 |
| MCMATH | 10 | 1819 | S17 | W48 |
| * HAWAII | 10 | 1828 | N08 | W31 |
| LOCKHEED | 10 | 1835 | D S16 | W51 |
| HAWAII | 10 | 1842 | S11 | W54 |
| MCMATH | 10 | 1842 | S17 | W49 |
| SAC PEAK | 10 | 1842 | S18 | W50 |
| LOCKHEED | 10 | 1905 | N09 | W29 |
| LOCKHEED | 10 | 1959 | N33 | E08 |
| LOCKHEED | 10 | 2047 | N03 | W30 |
| LOCKHEED | 10 | 2107 | S17 | E49 |
| LOCKHEED | 10 | 2110 | 000 | W35 |
| LOCKHEED | 10 | 2129 | N32 | W32 |
| LOCKHEED | 10 | 2149 | N04 | W33 |
| LOCKHEED | 10 | 2230 | N06 | W31 |
| LOCKHEED | 10 | 2300 | S17 | W54 |
| LOCKHEED | 10 | 2329 | E S20 | W29 |
| LOCKHEED | 10 | 2329 | N06 | W31 |
| LOCKHEED | 10 | 2352 | N06 | W31 |
| | | | | |
| MCMATH | 11 | 1252 | E S16 | W59 |
| MCMATH | 11 | 1255 | S08 | E64 |
| MCMATH | 11 | 1357 | S19 | W62 |
| SAC PEAK | 11 | 1408 | E S17 | W62 |
| SAC PEAK | 11 | 1438 | N04 | E89 |
| MCMATH | 11 | 1440 | N07 | E86 |
| MCMATH | 11 | 1510 | S09 | E62 |
| SAC PEAK | 11 | 1512 | S10 | E63 |
| SAC PEAK | 11 | 1528 | S17 | W63 |
| MCMATH | 11 | 1528 | S19 | W62 |
| LOCKHEED | 11 | 1534 | E S18 | W64 |
| LOCKHEED | 11 | 1641 | N01 | E88 |
| LOCKHEED | 11 | 1742 | N06 | W40 |
| LOCKHEED | 11 | 1906 | S17 | W66 |
| SAC PEAK | 11 | 1906 | S17 | W65 |
| HAWAII | 11 | 1908 | S08 | W67 |
| LOCKHEED | 11 | 1931 | N01 | E88 |
| LOCKHEED | 11 | 1950 | N31 | W07 |
| LOCKHEED | 11 | 2005 | N03 | E80 |
| LOCKHEED | 11 | 2025 | N05 | W45 |
| SAC PEAK | 11 | 2048 | S17 | W67 |
| LOCKHEED | 11 | 2048 | S17 | W66 |
| LOCKHEED | 11 | 2112 | N03 | E80 |
| LOCKHEED | 11 | 2147 | S17 | W66 |
| LOCKHEED | 11 | 2252 | S17 | W68 |
| LOCKHEED | 11 | 2301 | N05 | E86 |
| LOCKHEED | 11 | 2407 | N09 | W30 |
| | | | | |
| ARCETRI | 12 | 0902 | E N04 | W55 |
| WENDEL | 12 | 1236 | E S17 | E45 |
| SAC PEAK | 12 | 1434 | N35 | W05 |
| SAC PEAK | 12 | 1458 | N05 | W54 |
| LOCKHEED | 12 | 1818 | N05 | W58 |
| LOCKHEED | 12 | 1830 | N35 | W08 |
| LOCKHEED | 12 | 1931 | N05 | W58 |
| LOCKHEED | 12 | 1942 | N05 | E65 |
| SAC PEAK | 12 | 1942 | N06 | E67 |
| LOCKHEED | 12 | 2021 | N02 | W61 |
| LOCKHEED | 12 | 2047 | S08 | F46 |
| LOCKHEED | 12 | 2052 | S16 | E59 |
| LOCKHEED | 12 | 2110 | S16 | E59 |
| LOCKHEED | 12 | 2130 | N04 | W60 |
| LOCKHEED | 12 | 2212 | S16 | W90 |
| LOCKHEED | 12 | 2245 | N04 | W61 |
| LOCKHEED | 12 | 2300 | N35 | W10 |
| | | | | |
| ARCETRI | 13 | 0834 | E N01 | W68 |
| ARCETRI | 13 | 0846 | E S09 | E13 |
| WENDEL | 13 | 0848 | E S08 | E13 |
| WENDEL | 13 | 1214 | E N06 | E56 |
| LOCKHEED | 13 | 1749 | S11 | W90 |
| LOCKHEED | 13 | 1751 | N11 | E56 |
| LOCKHEED | 13 | 1811 | S12 | W90 |
| SAC PEAK | 13 | 1812 | S13 | W90 |
| LOCKHEED | 13 | 1945 | S10 | E34 |
| LOCKHEED | 13 | 2140 | S16 | W90 |
| LOCKHEED | 13 | 2250 | S09 | E33 |
| LOCKHEED | 13 | 2255 | N02 | W78 |
| | | | | |
| ARCETRI | 14 | 0851 | E S10 | E26 |
| ARCETRI | 14 | 0927 | E N07 | E45 |
| WENDEL | 14 | 1135 | E N31 | W37 |
| WENDEL | 14 | 1212 | E S06 | E17 |
| WENDEL | 14 | 1214 | E S09 | E19 |
| SAC PEAK | 14 | 1428 | N04 | E37 |
| SAC PEAK | 14 | 1548 | N03 | E40 |
| WENDEL | 14 | 1549 | E S08 | W05 |
| WENDEL | 14 | 1550 | E N04 | E40 |
| LOCKHEED | 14 | 1550 | E N03 | E40 |
| LOCKHEED | 14 | 1609 | N03 | W89 |
| LOCKHEED | 14 | 1609 | N00 | W63 |
| LOCKHEED | 14 | 1639 | N03 | W89 |
| LOCKHEED | 14 | 1643 | S08 | W07 |
| LOCKHEED | 14 | 1710 | N04 | W89 |
| LOCKHEED | 14 | 1723 | N00 | E90 |
| LOCKHEED | 14 | 1736 | N04 | W65 |
| LOCKHEED | 14 | 1913 | N26 | W03 |
| LOCKHEED | 14 | 1943 | S08 | W09 |
| LOCKHEED | 14 | 1954 | N09 | E38 |
| LOCKHEED | 14 | 1957 | N07 | W66 |
| LOCKHEED | 14 | 2048 | N35 | W73 |
| LOCKHEED | 14 | 2048 | N07 | E34 |
| LOCKHEED | 14 | 2050 | N04 | W89 |
| SAC PEAK | 14 | 2058 | N04 | W85 |
| LOCKHEED | 14 | 2111 | N04 | E36 |
| SAC PEAK | 14 | 2112 | N02 | E37 |
| LOCKHEED | 14 | 2113 | S04 | E90 |
| LOCKHEED | 14 | 2246 | S09 | E10 |
| LOCKHEED | 14 | 2301 | S08 | W10 |
| LOCKHEED | 14 | 2319 | S02 | W66 |
| LOCKHEED | 14 | 2334 | S01 | W66 |
| | | | | |
| WENDEL | 15 | 0734 | E N07 | E32 |
| WENDEL | 15 | 1159 | E S02 | E87 |
| SAC PEAK | 15 | 1528 | N30 | W53 |
| SAC PEAK | 15 | 1554 | S08 | E01 |
| LOCKHEED | 15 | 1600 | E S07 | 0D |
| LOCKHEED | 15 | 1613 | S08 | E08 |
| LOCKHEED | 15 | 1615 | N01 | E80 |
| SAC PEAK | 15 | 1618 | N01 | E80 |
| LOCKHEED | 15 | 1630 | S07 | W21 |
| LOCKHEED | 15 | 1638 | S11 | E10 |
| LOCKHEED | 15 | 1638 | N07 | E27 |
| LOCKHEED | 15 | 1721 | S07 | W21 |
| LOCKHEED | 15 | 1724 | S11 | E10 |
| LOCKHEED | 15 | 1725 | N01 | E80 |
| LOCKHEED | 15 | 1725 | S06 | E00 |
| SAC PEAK | 15 | 1730 | S05 | E01 |
| LOCKHEED | 15 | 1732 | S11 | E07 |
| SAC PEAK | 15 | 1812 | S12 | E10 |
| LOCKHEED | 15 | 1812 | S11 | E10 |
| HAWAII | 15 | 1814 | S15 | E05 |
| LOCKHEED | 15 | 1845 | S08 | W21 |
| LOCKHEED | 15 | 1850 | S05 | E46 |
| SAC PEAK | 15 | 1900 | S07 | W22 |
| HAWAII | 15 | 1902 | S04 | W23 |
| LOCKHEED | 15 | 1918 | N09 | E90 |
| LOCKHEED | 15 | 1925 | S10 | 00 |
| LOCKHEED | 15 | 1942 | N01 | E78 |
| HAWAII | 15 | 1946 | S07 | E73 |
| LOCKHEED | 15 | 1952 | S05 | E46 |
| LOCKHEED | 15 | 2000 | N09 | E90 |
| LOCKHEED | 15 | 2023 | S08 | W22 |
| SAC PEAK | 15 | 2028 | S07 | W22 |
| LOCKHEED | 15 | 2057 | S05 | E46 |
| LOCKHEED | 15 | 2105 | N02 | E79 |
| LOCKHEED | 15 | 2133 | N09 | E90 |
| LOCKHEED | 15 | 2133 | S05 | W01 |
| LOCKHEED | 15 | 2147 | N09 | E90 |
| LOCKHEED | 15 | 2200 | S09 | W23 |
| SAC PEAK | 15 | 2210 | S07 | W23 |
| LOCKHEED | 15 | 2249 | N09 | E90 |
| LOCKHEED | 15 | 2308 | N09 | E90 |
| HAWAII | 15 | 2316 | S21 | E13 |
| HAWAII | 15 | 2334 | N00 | E90 |
| LOCKHEED | 15 | 2345 | N01 | E74 |
| LOCKHEED | 15 | 2400 | N09 | E22 |
| | | | | |
| HAWAII | 16 | 0124 | S19 | E06 |
| ARCETRI | 16 | 0856 | E N30 | W62 |
| WENDEL | 16 | 0859 | E N29 | W60 |
| WENDEL | 16 | 1233 | E N25 | W24 |
| WENDEL | 16 | 1434 | E N29 | W64 |
| LOCKHEED | 16 | 1550 | E N29 | W70 |
| MCMATH | 16 | 1637 | S18 | E07 |
| LOCKHEED | 16 | 1738 | N29 | W70 |
| LOCKHEED | 16 | 1831 | N01 | E62 |
| MCMATH | 16 | 1832 | N02 | E64 |
| HAWAII | 16 | 1834 | S17 | E61 |
| SAC PEAK | 16 | 1836 | N01 | E63 |
| LOCKHEED | 16 | 1855 | N29 | W70 |
| LOCKHEED | 16 | 1900 | N08 | E79 |
| MCMATH | 16 | 1901 | S02 | E67 |
| LOCKHEED | 16 | 1910 | N04 | E10 |
| LOCKHEED | 16 | 1928 | N08 | E79 |
| MCMATH | 16 | 1930 | N09 | E80 |
| LOCKHEED | 16 | 1943 | S09 | W15 |
| LOCKHEED | 16 | 2025 | N08 | E79 |
| LOCKHEED | 16 | 2045 | S02 | E68 |
| LOCKHEED | 16 | 2045 | N29 | W70 |
| LOCKHEED | 16 | 2055 | N04 | E10 |
| LOCKHEED | 16 | 2110 | N08 | E79 |
| LOCKHEED | 16 | 2117 | N42 | E28 |
| SAC PEAK | 16 | 2152 | N30 | W70 |
| LOCKHEED | 16 | 2235 | S15 | E01 |
| HAWAII | 16 | 2302 | E S14 | E02 |
| | | | | |
| WENDEL | 17 | 1242 | E N03 | W72 |
| SAC PEAK | 17 | 1550 | N01 | E66 |
| SAC PEAK | 17 | 1658 | N05 | W01 |
| LOCKHEED | 17 | 1700 | N05 | W02 |
| LOCKHEED | 17 | 1745 | N07 | E50 |
| LOCKHEED | 17 | 1745 | N01 | E65 |

# SUBFLARES

## Noted as follows: Date-Universal Time-Coordinates

### OCTOBER 1959

| | | | | |
|---|---|---|---|---|
| | LOCKHEED | 17 | 1748 | N30 W86 |
| | LOCKHEED | 17 | 1835 | N07 E50 |
| | LOCKHEED | 17 | 1910 | N29 W86 |
| | LOCKHEED | 17 | 1914 | N07 E50 |
| | LOCKHEED | 17 | 1917 | N05 W02 |
| | SAC PEAK | 17 | 1924 | N30 W83 |
| | LOCKHEED | 17 | 2015 | N29 W86 |
| | LOCKHEED | 17 | 2028 | N07 E50 |
| | HAWAII | 17 | 2056 | S00 E47 |
| | SAC PEAK | 17 | 2056 | N07 E49 |
| | LOCKHEED | 17 | 2057 | N08 E48 |
| | SAC PEAK | 17 | 2108 | N04 W03 |
| | LOCKHEED | 17 | 2109 | N04 W03 |
| | HAWAII | 17 | 2110 | N05 W04 |
| | LOCKHEED | 17 | 2139 | N10 E48 |
| | LOCKHEED | 17 | 2158 | N29 W86 |
| | LOCKHEED | 17 | 2227 | N08 W07 |
| | LOCKHEED | 17 | 2230 | N36 E50 |
| | LOCKHEED | 17 | 2245 | N41 E61 |
| | LOCKHEED | 17 | 2250 | N29 W86 |
| | LOCKHEED | 17 | 2250 | N10 E47 |
| * | LOCKHEED | 17 | 2258 | S04 E59 |
| * | LOCKHEED | 17 | 2337 | N00 E40 |
| | LOCKHEED | 17 | 2344 | N29 W86 |
| | LOCKHEED | 17 | 2349 | N12 E16 |
| | HAWAII | 17 | 2350 | N08 E17 |
| | LOCKHEED | 17 | 2357 | N31 E40 |
| | | | | |
| | LOCKHEED | 18 | 0017 | S04 E47 |
| | HAWAII | 18 | 0020 | E S11 E45 |
| | LOCKHEED | 18 | 0022 | N08 E47 |
| | LOCKHEED | 18 | 0047 | S13 W31 |
| | LOCKHEED | 18 | 0100 | N08 E47 |
| | SAC PEAK | 18 | 1428 | N01 E52 |
| | MCMATH | 18 | 1428 | N02 E54 |
| | SAC PEAK | 18 | 1500 | S13 W40 |
| | MCMATH | 18 | 1521 | E S12 W32 |
| | SAC PEAK | 18 | 1604 | N01 E52 |
| | MCMATH | 18 | 1604 | N02 E53 |
| | MCMATH | 18 | 1623 | S09 W33 |
| | SAC PEAK | 18 | 1624 | S09 W35 |
| | SAC PEAK | 18 | 1626 | N00 E52 |
| | MCMATH | 18 | 1626 | N02 E53 |
| | MCMATH | 18 | 1641 | N06 E54 |
| | MCMATH | 18 | 1647 | N02 E43 |
| | MCMATH | 18 | 1737 | N02 E52 |
| | SAC PEAK | 18 | 1738 | N00 E51 |
| | LOCKHEED | 18 | 1740 | E N01 E51 |
| | MCMATH | 18 | 1815 | E N03 E44 |
| | MCMATH | 18 | 1828 | N08 W19 |
| | SAC PEAK | 18 | 1828 | N08 W18 |
| | LOCKHEED | 18 | 1829 | N09 W18 |
| | LOCKHEED | 18 | 1831 | N02 E46 |
| | SAC PEAK | 18 | 1844 | N01 E43 |
| | LOCKHEED | 18 | 1925 | N02 E41 |
| | LOCKHEED | 18 | 2050 | N01 E49 |
| | LOCKHEED | 18 | 2142 | S02 E39 |
| | SAC PEAK | 18 | 2146 | S02 E39 |
| | SAC PEAK | 18 | 2148 | N00 E48 |
| | HAWAII | 18 | 2150 | E S07 E47 |
| | LOCKHEED | 18 | 2150 | N01 E48 |
| * | SAC PEAK | 18 | 2202 | N07 E36 |
| * | HAWAII | 18 | 2204 | N02 E35 |
| | SAC PEAK | 18 | 2224 | S05 E35 |
| | LOCKHEED | 18 | 2225 | S05 E35 |
| | HAWAII | 18 | 2226 | S11 E33 |
| | LOCKHEED | 18 | 2244 | S09 W65 |
| | LOCKHEED | 18 | 2258 | N12 W66 |
| | LOCKHEED | 18 | 2304 | S04 E36 |
| | LOCKHEED | 18 | 2325 | S04 E18 |
| | LOCKHEED | 18 | 2355 | N08 E35 |
| | HAWAII | 18 | 2356 | E N03 E34 |
| | | | | |
| | LOCKHEED | 19 | 0020 | N12 W66 |
| | HAWAII | 19 | 0154 | S10 E31 |
| | ARCETRI | 19 | 0809 | E S05 E15 |
| | ARCETRI | 19 | 0809 | E S00 W23 |
| | WENDEL | 19 | 0918 | E S03 E15 |
| | WENOEL | 19 | 1042 | E S08 W49 |
| | MCMATH | 19 | 1313 | S04 E13 |
| | MCMATH | 19 | 1323 | S04 E13 |
| | MCMATH | 19 | 1357 | N10 E42 |
| | MCMATH | 19 | 1400 | N08 E90 |
| | SAC PEAK | 19 | 1413 | E N06 E90 |
| | SAC PEAK | 19 | 1413 | E N07 E25 |
| | MCMATH | 19 | 1430 | N08 E90 |
| | SAC PEAK | 19 | 1504 | N06 E90 |
| | SAC PEAK | 19 | 1532 | S04 E25 |
| | MCMATH | 19 | 1533 | S03 E26 |
| | SAC PEAK | 19 | 1540 | N08 W29 |
| | SAC PEAK | 19 | 1548 | N04 W27 |
| | MCMATH | 19 | 1700 | S07 W01 |
| | SAC PEAK | 19 | 1704 | S05 W55 |
| | MCMATH | 19 | 1705 | S06 W53 |
| | SAC PEAK | 19 | 1712 | S09 W02 |
| | HAWAII | 19 | 1814 | S08 E22 |
| | MCMATH | 19 | 1908 | N01 E22 |
| | SAC PEAK | 19 | 1908 | S01 E20 |
| | HAWAII | 19 | 1910 | S05 E20 |
| | SAC PEAK | 19 | 1922 | N04 E37 |
| | SAC PEAK | 19 | 2008 | N05 E90 |
| | LOCKHEED | 19 | 2013 | E N05 E90 |
| | SAC PEAK | 19 | 2102 | N06 E90 |
| | LOCKHEED | 19 | 2104 | N05 E90 |
| | SAC PEAK | 19 | 2124 | N07 E90 |
| | LOCKHEED | 19 | 2145 | N05 E35 |
| | LOCKHEED | 19 | 2248 | S06 W59 |
| | HAWAII | 19 | 2252 | N03 W60 |
| | LOCKHEED | 19 | 2332 | S06 W59 |
| | HAWAII | 20 | 0040 | N03 W60 |
| | MCMATH | 20 | 1358 | S03 E00 |
| | SAC PEAK | 20 | 1415 | E S05 E00 |
| | SAC PEAK | 20 | 1434 | S09 W65 |
| | SAC PEAK | 20 | 1438 | N08 W41 |
| | MCMATH | 20 | 1515 | S03 W02 |
| | MCMATH | 20 | 1528 | N00 E07 |
| | MCMATH | 20 | 1529 | N08 E80 |
| | SAC PEAK | 20 | 1530 | S01 E07 |
| | MCMATH | 20 | 1530 | N09 E10 |
| | SAC PEAK | 20 | 1558 | N02 E15 |
| | LOCKHEED | 20 | 1725 | S05 W65 |
| | MCMATH | 20 | 1725 | S06 W65 |
| | LOCKHEED | 20 | 1725 | N04 E80 |
| | MCMATH | 20 | 1727 | N06 E78 |
| | SAC PEAK | 20 | 1728 | S05 W64 |
| | SAC PEAK | 20 | 1728 | N05 E80 |
| | LOCKHEED | 20 | 1815 | N10 E26 |
| | MCMATH | 20 | 1815 | N12 E26 |
| | SAC PEAK | 20 | 1818 | N10 E25 |
| | LOCKHEED | 20 | 1835 | N04 E80 |
| | LOCKHEED | 20 | 1842 | N04 W45 |
| | SAC PEAK | 20 | 1844 | N04 W46 |
| | LOCKHEED | 20 | 1900 | N31 E15 |
| | MCMATH | 20 | 1905 | E N07 W46 |
| | MCMATH | 20 | 1905 | E N35 E01 |
| | LOCKHEED | 20 | 1906 | N05 E82 |
| | LOCKHEED | 20 | 1907 | N06 W45 |
| | LOCKHEED | 20 | 1910 | S01 E32 |
| | SAC PEAK | 20 | 1910 | N02 E20 |
| | MCMATH | 20 | 1910 | N02 E20 |
| | HAWAII | 20 | 1912 | S02 E19 |
| | LOCKHEED | 20 | 1935 | N01 E12 |
| | SAC PEAK | 20 | 1946 | N02 E13 |
| | HAWAII | 20 | 1946 | N00 E13 |
| | LOCKHEED | 20 | 1959 | S01 E11 |
| | LOCKHEED | 20 | 2042 | S11 W68 |
| | HAWAII | 20 | 2044 | N01 W72 |
| | SAC PEAK | 20 | 2044 | S08 W70 |
| | LOCKHEED | 20 | 2049 | N00 E10 |
| | LOCKHEED | 20 | 2100 | N10 E22 |
| | HAWAII | 20 | 2102 | N17 E24 |
| | SAC PEAK | 20 | 2104 | N11 E24 |
| | LOCKHEED | 20 | 2105 | N04 E77 |
| | HAWAII | 20 | 2130 | N01 W72 |
| * | SAC PEAK | 20 | 2136 | S01 E04 |
| * | HAWAII | 20 | 2138 | S03 E03 |
| | LOCKHEED | 20 | 2235 | N05 E75 |
| | LOCKHEED | 20 | 2239 | N03 W76 |
| | HAWAII | 20 | 2244 | N01 W78 |
| | | | | |
| | HAWAII | 21 | 0058 | N00 E10 |
| | MCMATH | 21 | 1330 | S11 W87 |
| | MCMATH | 21 | 1350 | E S01 E00 |
| | MCMATH | 21 | 1357 | S04 W10 |
| | SAC PEAK | 21 | 1458 | S07 W76 |
| | MCMATH | 21 | 1512 | N07 E66 |
| | MCMATH | 21 | 1616 | S08 W80 |
| | MCMATH | 21 | 1630 | S10 E09 |
| | MCMATH | 21 | 1641 | S10 E09 |
| | MCMATH | 21 | 1655 | N07 E66 |
| * | MCMATH | 21 | 1720 | S13 W88 |
| | HAWAII | 21 | 1842 | S01 W10 |
| | MCMATH | 21 | 1842 | N00 W08 |
| | SAC PEAK | 21 | 1940 | S05 W20 |
| | HAWAII | 21 | 1954 | S01 W19 |
| | LOCKHEED | 21 | 1955 | S05 W18 |
| | SAC PEAK | 21 | 1956 | S04 E17 |
| | LOCKHEED | 21 | 2023 | S11 E85 |
| * | SAC PEAK | 21 | 2058 | S14 W67 |
| | LOCKHEED | 21 | 2111 | S11 E85 |
| | LOCKHEED | 21 | 2311 | U S12 W13 |
| | | | | |
| | ARCETRI | 22 | 0920 | E S12 W16 |
| | MCMATH | 22 | 1331 | E N08 E45 |
| | MCMATH | 22 | 1347 | N02 W12 |
| | SAC PEAK | 22 | 1420 | N03 E47 |
| | SAC PEAK | 22 | 1436 | S11 W22 |
| | MCMATH | 22 | 1445 | S12 W20 |
| | SAC PEAK | 22 | 1518 | N08 W69 |
| | MCMATH | 22 | 1545 | S10 W22 |
| | LOCKHEED | 22 | 1640 | N02 W15 |
| | MCMATH | 22 | 1704 | E N06 E47 |
| | LOCKHEED | 22 | 1710 | N03 E47 |
| | MCMATH | 22 | 1717 | N06 E47 |
| | LOCKHEED | 22 | 1729 | S01 W22 |
| | LOCKHEED | 22 | 1810 | S09 W25 |
| | LOCKHEED | 22 | 1810 | S09 W25 |
| | LOCKHEED | 22 | 1829 | N03 W13 |
| | LOCKHEED | 22 | 1851 | N09 E53 |
| | HAWAII | 22 | 1852 | N02 E55 |
| | LOCKHEED | 22 | 1900 | S09 W25 |
| | LOCKHEED | 22 | 1915 | N04 E44 |
| | LOCKHEED | 22 | 1916 | S05 E73 |
| | MCMATH | 22 | 1920 | E N06 E46 |
| | LOCKHEED | 22 | 2029 | N09 E53 |
| | LOCKHEED | 22 | 2042 | N04 E44 |
| | LOCKHEED | 22 | 2045 | N03 000 |
| | LOCKHEED | 22 | 2050 | S09 W25 |
| | LOCKHEED | 22 | 2120 | S09 W25 |
| | LOCKHEED | 22 | 2129 | S12 E89 |
| | LOCKHEED | 22 | 2142 | N03 W00 |
| | LOCKHEED | 22 | 2152 | N02 W17 |
| | LOCKHEED | 22 | 2225 | S09 W25 |
| | LOCKHEED | 22 | 2238 | N08 E52 |
| | LOCKHEED | 22 | 2334 | N05 E54 |
| | | | | |
| | LOCKHEED | 23 | 0032 | N09 E51 |
| | LOCKHEED | 23 | 0055 | N09 E51 |
| | LOCKHEED | 23 | 1555 | E S13 W18 |
| | LOCKHEED | 23 | 1615 | N03 W27 |
| | LOCKHEED | 23 | 1615 | S24 E17 |
| | LOCKHEED | 23 | 1620 | N03 W27 |
| | LOCKHEED | 23 | 1650 | N01 W34 |
| | LOCKHEED | 23 | 1702 | N04 E31 |
| | LOCKHEED | 23 | 1734 | N03 E30 |
| | LOCKHEED | 23 | 1812 | N03 W28 |
| | LOCKHEED | 23 | 1828 | N11 E73 |
| | LOCKHEED | 23 | 1836 | N04 E29 |
| | SAC PEAK | 23 | 1904 | N08 E41 |
| | LOCKHEED | 23 | 1904 | N07 E41 |
| | LOCKHEED | 23 | 2051 | N01 W36 |
| | SAC PEAK | 23 | 2052 | S02 W36 |
| | HAWAII | 23 | 2054 | N05 W36 |
| | LOCKHEED | 23 | 2120 | N03 E27 |
| | LOCKHEED | 23 | 2153 | N02 W30 |
| | SAC PEAK | 23 | 2212 | N12 W90 |
| | LOCKHEED | 23 | 2213 | N14 W86 |
| | HAWAII | 23 | 2222 | E N22 W84 |
| | LOCKHEED | 23 | 2243 | N02 W32 |
| | LOCKHEED | 23 | 2327 | 000 W28 |
| | | | | |
| | WENDEL | 24 | 1054 | E S13 W43 |
| | WENDEL | 24 | 1435 | E S09 W49 |
| | SAC PEAK | 24 | 1530 | N00 W49 |
| | SAC PEAK | 24 | 1634 | N00 W49 |
| | LOCKHEED | 24 | 1818 | N09 E46 |
| | HAWAII | 24 | 1820 | E N03 E48 |
| | LOCKHEED | 24 | 1916 | N08 E22 |
| | LOCKHEED | 24 | 2013 | N02 W50 |
| | SAC PEAK | 24 | 2016 | N00 W49 |
| | LOCKHEED | 24 | 2020 | S10 E53 |
| | LOCKHEED | 24 | 2030 | N09 E26 |
| | HAWAII | 24 | 2032 | S17 E53 |
| | LOCKHEED | 24 | 2042 | N07 E21 |
| | SAC PEAK | 24 | 2042 | N05 E22 |
| | HAWAII | 24 | 2048 | E N03 E22 |
| | HAWAII | 24 | 2130 | N03 E22 |
| | LOCKHEED | 24 | 2132 | N07 E22 |
| | LOCKHEED | 24 | 2244 | N01 W52 |
| | HAWAII | 24 | 2326 | E N02 E21 |
| | LOCKHEED | 24 | 2328 | N07 E20 |
| | | | | |
| | WENOEL | 25 | 1259 | E N10 E19 |
| | SAC PEAK | 25 | 1426 | S14 E43 |
| | SAC PEAK | 25 | 1448 | N07 E11 |
| | SAC PEAK | 25 | 1454 | N01 W55 |
| | SAC PEAK | 25 | 1456 | N10 E19 |
| | SAC PEAK | 25 | 1616 | S10 E45 |
| | SAC PEAK | 25 | 1640 | N01 W55 |
| | SAC PEAK | 25 | 1832 | N07 E10 |
| | SAC PEAK | 25 | 2036 | N05 E08 |
| | HAWAII | 25 | 2038 | N05 E10 |
| | | | | |
| | HAWAII | 26 | 0112 | N09 E07 |
| | WENDEL | 26 | 0907 | E N03 W07 |
| | WENDEL | 26 | 0955 | E S09 E19 |
| | WENDEL | 26 | 1224 | E S09 E18 |
| | SAC PEAK | 26 | 1508 | N07 W04 |
| | SAC PEAK | 26 | 1520 | S10 E17 |
| | SAC PEAK | 26 | 1654 | S10 E16 |
| | SAC PEAK | 26 | 1706 | N05 W02 |
| * | SAC PEAK | 26 | 2000 | N05 W04 |
| | | | | |
| | HAWAII | 27 | 0006 | N09 W09 |
| | SAC PEAK | 27 | 1422 | N12 E14 |
| | SAC PEAK | 27 | 1436 | S13 E20 |
| | SAC PEAK | 27 | 1722 | N09 W19 |
| | SAC PEAK | 27 | 1754 | S10 E02 |
| | SAC PEAK | 27 | 2050 | S10 E00 |
| | SAC PEAK | 27 | 2104 | S14 E15 |
| | | | | |
| | LOCKHEED | 28 | 1625 | N08 W32 |
| | LOCKHEED | 28 | 1712 | N06 W09 |
| | LOCKHEED | 28 | 1725 | S14 E03 |
| | LOCKHEED | 28 | 1941 | S14 E03 |
| | LOCKHEED | 28 | 2104 | S14 E03 |
| | LOCKHEED | 28 | 2117 | N08 W41 |
| | | | | |
| * | HAWAII | 29 | 0030 | E S11 W06 |
| | HAWAII | 29 | 1948 | E N18 E01 |
| | LOCKHEED | 29 | 2103 | N11 W56 |
| | LOCKHEED | 29 | 2117 | N16 W56 |
| | LOCKHEED | 29 | 2305 | N17 W01 |
| | HAWAII | 29 | 2306 | N15 E03 |
| | | | | |
| | MCMATH | 30 | 1748 | E S10 W28 |
| | LOCKHEED | 30 | 1958 | S17 E33 |
| | | | | |
| | WENOEL | 31 | 0825 | E N07 W71 |
| | WENDEL | 31 | 0916 | E N09 W31 |
| | SAC PEAK | 31 | 1556 | S07 W40 |
| | SAC PEAK | 31 | 1612 | N22 E20 |
| | SAC PEAK | 31 | 1650 | N08 W43 |
| | LOCKHEED | 31 | 1650 | N09 W43 |
| | LOCKHEED | 31 | 1727 | S09 W38 |
| | LOCKHEED | 31 | 1737 | N23 E19 |
| * | SAC PEAK | 31 | 1758 | N13 W82 |
| | LOCKHEED | 31 | 1802 | N09 W43 |
| | LOCKHEED | 31 | 1815 | S07 W41 |
| | LOCKHEED | 31 | 1841 | N22 E04 |
| | LOCKHEED | 31 | 1915 | N17 W24 |
| | SAC PEAK | 31 | 1916 | N18 W22 |
| | LOCKHEED | 31 | 2120 | U N22 E02 |
| | LOCKHEED | 31 | 2139 | N33 E90 |
| | LOCKHEED | 31 | 2150 | N17 W26 |
| | LOCKHEED | 31 | 2227 | N17 W26 |
| | LOCKHEED | 31 | 2234 | N22 000 |
| | LOCKHEED | 31 | 2314 | N17 W26 |

*Rated as flare of importance ≥ 1 by other observatories (see CRPL-F 183 Part B).

# SOLAR FLARES

## AUGUST 1959

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SYDNEY | 01 | 0118 | 0205 | 0133 | N14 | E08 | 5299 | 47 | 1 | 2 | 0133 | 4.00 | 5.0·0 | | | G-SWF |
| KHARKOV | 01 | 1031 E | 1049 | 1033 | N07 | W19 | 5294 | 18 D | 1& | 2 | 1035 | | 1.20 | 2.30 | | |
| KHARKOV | 01 | 1047 | 1107 | | N09 | W08 | 5294 | 20 | 1 | 1 | 1048 | | 1.20 | 1.20 | | |
| KHARKOV | 01 | 1103 E | 1119 | | N04 | E25 | 5300 | 16 D | 1 | 1 | 1105 | | .60 | 1.50 | | |
| KIEV | 01 | 1309 | 1407 | 1343 | N27 | W39 | 5293 | 58 | 1& | 2 | 1343 | | 9.40 | | 60 | Slow S-SWF |
| CAPRI G | 01 | 1319 E | 1425 | | N27 | W39 | 5293 | 66 D | 2 | | | | 7.00 | | | |
| TASHKENT | 02 | 0543 | 0620 | 0550 | N04 | E19 | 5300 | 37 | 1& | 2 | 0554 | | 8.00 | 2.60 | 90 | |
| ABASTUMANI | 02 | 0547 E | 0632 D | 0600 U | N04 | E17 | 5300 | 45 D | 1 | 2 | 0552 | | 4.62 | 2.40 | | |
| CAPRI G | 02 | 0600 E | 0628 | | N07 | E19 | 5300 | 28 D | 1 | | | | 3.00 | | | |
| ABASTUMANI | 02 | 0613 E | 0622 D | 0617 U | N11 | W21 | 5294 | 9 D | 1 | 2 | 0617 | | 2.35 | 2.00 | | |
| KRASNYA | 02 | 0813 | 0843 | 0815 U | N08 | E12 | 5300 | 30 | 1 | 2 | 0815 | | .60 | | 65 | |
| KRASNYA | 02 | 0932 | 0938 | 0934 | N10 | W23 | 5294 | 6 | 1 | 2 | 0934 | | .50 | | 85 | |
| CAPRI G | 03 | 0547 E | 0558 | | S20 | E08 | 5303 | 11 D | 1& | | | | 4.00 | | | |
| ABASTUMANI | 03 | 0611 E | 0624 D | 0614 U | N14 | W22 | 5299 | 13 D | 1 | 2 | 0614 | | 2.59 | | | |
| CAPRI G | 03 | 0650 E | 0708 | | N04 | E04 | 5300 | 18 D | 1 | | | | 3.00 | | | |
| CAPRI G | 03 | 0718 | 0735 | | N03 | E04 | 5300 | 17 | 1 | | | | 3.00 | | | |
| KRASNYA | 03 | 0721 | 0736 | 0728 | N01 | E05 | 5300 | 15 | 1 | 2 | 0728 | | .60 | | 150 | |
| KRASNYA | 03 | 0724 | 0748 | 0726 U | N13 | E53 | 5310 | 24 | 1 | 2 | 0726 | | 1.10 | | 60 | |
| KRASNYA | 03 | 0735 | 0742 | 0737 | N14 | W26 | 5299 | 7 | 1 | 2 | 0737 | | .40 | | 130 | |
| CAPRI G | 03 | 0737 | 0748 | | N15 | W23 | 5299 | 11 | 1 | | | | 3.00 | | | |
| KRASNYA | 03 | 0825 | 0839 | 0827 | N15 | W36 | 5294 | 14 | 1 | 2 | 0827 | | 1.50 | | 105 | |
| KRASNYA | 03 | 0927 | 0945 | 0931 U | N13 | E53 | 5310 | 18 | 1 | 2 | 0931 | | .90 | | 70 | |
| KRASNYA | 03 | 0937 | 0951 D | 0938 | N13 | W34 | 5294 | 14 D | 1 | 2 | 0938 | | .40 | | 90 | |
| KRASNYA | 04 | 0715 | 0732 | 0718 U | N06 | W10 | 5300 | 17 | 1& | 2 | 0718 | | .70 | | 160 | |
| CAPRI G | 04 | 0718 | 0734 | | N05 | W11 | 5300 | 16 | 1 | | | | 3.00 | | | |
| PIRCULI | 04 | 1028 | 1110 | 1045 | N03 | W15 | 5300 | 42 | 3 | 1 | 1045 | | 20.60 | | 76 | Slow S-SWF |
| CAPRI G | 04 | 1029 | 1105 | | N03 | W10 | 5300 | 36 | 2 | | | | 6.00 | | | |
| CAPRI G | 04 | 1450 E | 1505 D | | N14 | W53 | 5294 | 15 D | 1& | | | | 4.00 | | | Slow S-SWF |
| SYDNEY | 05 | 0103 | 0130 | 0114 | N16 | W92 | 5298 | 27 | □ | 3 | 0114 | .75 | | | | |
| SYDNEY | 05 | 0106 | 0127 | 0109 | N08 | W33 | 5300 | 21 | 1 | 3 | 0109 | 2.00 | 3.00 | | | |
| SYDNEY | 05 | 0135 | 0216 D | 0151 | N08 | W30 | 5300 | 41 D | 2 | 3 | 0151 | 5.00 | 6.00 | | | |
| CAPRI G | 05 | 0710 E | | | N16 | E52 | 5315 | | 1 | | | | 3.00 | | | |
| CAPRI G | 05 | 0736 E | 0847 | | N13 | W64 | 5294 | 71 D | 1 | | | | 3.00 | | | |
| PIRCULI | 05 | 0755 | 0855 | 0820 | N12 | W65 | 5294 | 60 | 2 | 1 | 0820 | | 8.82 | | 57 | |
| ABASTUMANI | 05 | 0822 E | 0900 D | 0830 U | N15 | W65 | 5294 | 38 D | 1& | 1 | 0827 | | 7.52 | 2.20 | | |
| ONDREJOV | 05 | 1314 | 1331 | 1316 | N01 | W27 | 5300 | 17 | 1 | 3 | 1316 | | | 2.10 | | |
| SYDNEY | 06 | 0055 | 0116 | 0059 | S15 | E39 | 5313 | 21 | 1 | 2 | 0059 | 2.00 | 3.00 | | | |
| SYDNEY | 06 | 0057 | 0126 | 0113 | N15 | E69 | 5315 | 29 | 1 | 2 | 0113 | 2.00 | 4.00 | | | Slow S-SWF |
| SYDNEY | 06 | 0301 | 0314 | | N16 | E68 | 5315 | 13 | 1 | 1 | 0304 | 1.00 | 3.00 | | | |
| CAPRI G | 06 | 0540 E | 0620 | | N14 | E65 | 5315 | 40 D | 1& | | | | 4.00 | | | |
| CAPRI G | 06 | 0658 E | 0732 | | N14 | E64 | 5315 | 34 D | 1& | | | | 4.00 | | | S-SWF |
| CAPRI G | 06 | 0905 E | 0912 D | | N19 | E44 | 5315 | 7 D | 1 | | | | 3.00 | | | |
| ONDREJOV | 06 | 1350 | 1400 D | | N21 | E48 | 5315 | 10 D | 1 | 2 | 1354 | | | 2.20 | | |
| ONDREJOV | 06 | 1351 | 1404 D | | N16 | E34 | 5315 | 13 D | 1 | 2 | 1356 | | | 2.40 | | |
| ONDREJOV | 06 | 1459 | 1513 D | 1402 | N15 | E51 | 5315 | 14 D | 2 | 3 | 1402 | | | 4.30 | | S-SWF |
| CAPRI G | 07 | 0542 E | 0555 | | S19 | E82 | 5320 | 13 D | 1 | | | | 3.00 | | | |
| CAPRI G | 07 | 0616 | 0627 | | S09 | E24 | 5317 | 11 | 1 | | | | 3.00 | | | |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CAPRI G | 07 | 0708 | 0717 | | N18 | E28 | 5315 | 9 | 1 | | | | 2.00 | | | |
| CAPRI G | 07 | 0739 E | 0756 | | N20 | E39 | 5315 | 17 D | 1 | | | | 3.00 | | | |
| CAPRI G | 07 | 0749 | 0819 | | N15 | E50 | 5315 | 30 | 1 | | | | 3.00 | | | |
| CAPRI G | 07 | 0758 | 0810 | | S07 | E22 | 5317 | 12 | 1 | | | | 3.00 | | | |
| KRASNYA | 07 | 0846 | 0848 | 0846 U | N17 | E23 | 5315 | 2 | 1 | 2 | 0846 | | .30 | | 85 | |
| KRASNYA | 07 | 0849 | 0902 | 0852 | N19 | E30 | 5315 | 13 | 1& | 2 | 0852 | | 1.20 | | 150 | |
| CAPRI G | 07 | 0849 | 0911 | | N18 | E27 | 5315 | 22 | 1 | | | | 3.00 | | | |
| KRASNYA | 07 | 0949 | 0957 | 0952 | N13 | E52 | 5315 | 8 | 1 | 2 | 0952 | | 1.40 | | 105 | |
| CAPRI G | 07 | 0949 | 1042 | | N15 | E48 | 5315 | 53 | 1 | | | | 4.00 | | | |
| CAPRI G | 07 | 1331 | 1400 | | N14 | E47 | 5315 | 29 | 1 | | | | 3.00 | | | |
| CAPRI G | 07 | 1537 E | 1544 | | S07 | E19 | 5317 | 7 D | 1 | | | | 3.00 | | | |
| CAPRI G | 07 | 1537 E | 1548 | | N15 | E18 | 5315 | 11 D | 1 | | | | 3.00 | | | |
| CAPRI G | 07 | 1556 | 1635 | | N14 | E45 | 5315 | 39 | 2 | | | | 6.00 | | | S-SWF |
| ONDREJOV | 08 | 0445 | 0510 | 0450 | N15 | E39 | 5315 | 25 | 1& | 3 | 0450 | | | 2.50 | | |
| TASHKENT | 08 | 0448 | 0600 | 0451 | N15 | E37 | 5315 | 72 | 1 | 2 | 0452 | | 3.00 | 3.10 | 105 | S-SWF |
| CAPRI G | 08 | 0550 E | 0607 | | N16 | E09 | 5315 | 17 D | 1 | | | | 3.00 | | | |
| ONDREJOV | 08 | 0741 E | 0800 D | | S07 | E10 | 5317 | 19 D | 1 | 3 | 0742 | | | 2.40 | | |
| CAPRI G | 08 | 0745 E | 0758 | | S07 | E09 | 5317 | 13 D | 1 | | | | 3.00 | | | |
| ONDREJOV | 08 | 0840 | 0852 | 0844 | N14 | E38 | 5315 | 12 | 1 | 3 | 0844 | | | 2.20 | | |
| CAPRI G | 08 | 0906 | 0918 | | N02 | W09 | 5314 | 12 | 1 | | | | 3.00 | | | |
| ONDREJOV | 08 | 0937 E | 0951 | | N17 | E08 | 5315 | 14 D | 1& | 3 | 0938 | | | 2.90 | | |
| CAPRI G | 08 | 0939 E | 0950 | | N16 | E05 | 5315 | 11 D | 1 | | | | 4.00 | | | |
| CAPRI G | 08 | 1029 | 1039 | | N15 | E32 | 5315 | 10 | 1 | | | | 3.00 | | | |
| ONDREJOV | 08 | 1052 E | 1058 | | N15 | E37 | 5315 | 6 D | 2- | 3 | 1052 | | | 3.00 | | |
| CAPRI G | 08 | 1053 | 1110 | | N14 | E35 | 5315 | 17 | 1 | | | | 3.00 | | | |
| CAPRI G | 08 | 1138 | 1149 | | N07 | E90 | 5323 | 11 | 1 | | | | | | | |
| ONDREJOV | 08 | 1446 E | 1501 | | N17 | E34 | 5315 | 15 D | 1 | 3 | 1447 | | | 2.70 | | |
| VOROSHILOV | 09 | 0119 | 0137 | 0128 | N16 | E02 | 5315 | 18 | 1& | 1 | 0128 | | 2.57 | | 118 | |
| CAPRI G | 09 | 0659 | 0712 | | N15 | E27 | 5315 | 13 | 1 | | | | 3.00 | | | |
| GOOD HOPE | 09 | 0938 | 1000 | 0942 | N12 | W40 | 5310 | 22 | 1 | | 0942 | 2.20 | 2.90 | | | |
| GOOD HOPE | 09 | 1421 | 1427 D | 1426 | N22 | E06 | 5315 | 6 D | 1 | | 1426 | 2.50 | 2.60 | | | |
| CAPRI G | 09 | 1422 | 1500 | | N16 | E06 | 5315 | 38 | 1 | | | | 4.00 | | | |
| GOOD HOPE | 10 | 0847 | 0905 | 0854 | N11 | W52 | 5310 | 18 | 1 | | 0854 | 1.50 | 2.40 | | | |
| GOOD HOPE | 10 | 1131 | 1145 | 1134 | N12 | E52 | | 14 | 1 | | 1134 | 1.50 | 2.40 | | | |
| CAPRI G | 10 | 1557 | 1633 D | | N25 | W08 | 5315 | 36 D | 1 | | | | 4.00 | | | S-SWF |
| SYDNEY | 11 | 0026 | 0041 | 0028 | N14 | E70 | 5323 | 15 | 1 | 3 | 0028 | 1.00 | 3.00 | | | |
| SYDNEY | 11 | 0035 | 0051 | 0041 | N15 | W77 | 5310 | 16 | 1 | 3 | 0041 | .75 | 3.00 | | | |
| SYDNEY | 11 | 0455 | 0513 D | 0502 | S07 | W25 | 5317 | 18 D | 1 | 3 | 0502 | 2.00 | 2.00 | | | |
| TASHKENT | 11 | 0455 | 0519 | 0457 | S08 | W30 | 5317 | 24 | 1& | 3 | 0459 | | 2.00 | 2.70 | 125 | |
| KHARKOV | 11 | 0905 E | 0915 D | | N08 | E68 | 5323 | 10 D | 1 | 1 | 0906 | | 2.50 | 1.50 | | |
| KHARKOV | 11 | 1040 | 1054 | | N08 | E67 | 5323 | 14 | 1 | 1 | 1051 | | 2.50 | 1.30 | | |
| KHARKOV | 11 | 1203 | 1230 | 1207 | N20 | W23 | 5315 | 27 | 3 | 1 | 1220 | | 19.00 | 2.70 | | |
| GOOD HOPE | 11 | 1204 E | 1232 | 1206 | N20 | W24 | 5315 | 28 D | 2 | | 1206 | 5.00 | 5.70 | | | |
| KIEV | 11 | 1216 E | 1224 D | 1217 U | N20 | W25 | 5315 | 8 D | 1 | 2 | 1224 | | 2.53 | | 75 | |
| CAPRI G | 11 | 1220 E | 1234 | | N20 | W25 | 5315 | 14 D | 1 | | | | 4.00 | | | |
| GOOD HOPE | 11 | 1304 | 1307 D | 1306 | N10 | E61 | 5323 | 3 D | 1 | | 1306 | 1.00 | 2.10 | | | |
| ONDREJOV | 11 | 1305 E | 1308 D | | N11 | E61 | 5323 | 3 D | 1 | 1 | 1305 | | | 2.20 | | |
| CAPRI G | 11 | 1436 | 1448 | | N17 | W28 | 5315 | 12 | 1 | | | | 3.00 | | | |
| ONDREJOV | 11 | 1527 E | 1544 | | S06 | W35 | 5317 | 17 D | 1 | 3 | 1529 | | | 2.00 | | |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ONDREJOV | 12 | 0535 E | 0553 | | S07 | W46 | 5317 | 18 D | 1 | 3 | 0541 | | | 2.30 | | |
| ABASTUMANI | 12 | 0540 E | 0842 D | 0801 U | S10 | W44 | 5317 | 182 D | 2 | 2 | 0745 | | 16.60 | 2.30 | | |
| ONDREJOV | 12 | 0721 E | 0820 | | S10 | W42 | 5317 | 59 D | 1 | 3 | 0743 | | | 2.40 | | |
| KRASNYA | 12 | 0741 E | 0823 | 0745 U | S07 | W43 | 5317 | 42 D | 1& | 2 | 0745 | | 2.90 | | 80 | |
| KRASNYA | 12 | 0843 | 0850 | 0843 | N23 | W38 | 5315 | 7 | 1 | 2 | 0843 | | 1.20 | | 90 | |
| ONDREJOV | 12 | 1112 E | 1117 | | S10 | E20 | 5327 | 5 D | 1 | 3 | 1114 | | | 2.40 | | |
| CAPRI G | 12 | 1107 E | 1136 | | S06 | W47 | 5317 | 29 D | 1 | | | | 4.00 | | | |
| KHARKOV | 12 | 1130 E | 1152 | | S07 | W42 | 5317 | 22 D | 2 | 2 | 1147 | | 21.20 | 1.60 | | |
| CAPRI G | 12 | 1223 E | | | S06 | W48 | 5317 | | 1 | | | | 3.00 | | | |
| CAPRI G | 12 | 1451 E | 1502 | | N20 | W51 | 5315 | 11 D | 1 | | | | 3.00 | | | |
| SYDNEY | 13 | 0014 E | 0059 | 0020 | S07 | W50 | 5317 | 45 D | 1 | 3 | 0020 | 3.00 | 4.00 | | | |
| SYDNEY | 13 | 0046 | 0132 | 0100 | S07 | E15 | 5327 | 46 | 1 | 2 | 0100 | 1.50 | 3.00 | | | |
| ABASTUMANI | 13 | 0704 E | 0723 D | 0707 U | N21 | E32 | 5323 | 19 D | 1 | 2 | 0707 | | 1.74 | | | |
| KRASNYA | 13 | 0714 E | 0721 | | N21 | E32 | 5323 | 7 D | 1 | 2 | 0714 | | .60 | | 120 | |
| KRASNYA | 13 | 0916 | 0935 | 0918 | N06 | W86 | 5314 | 19 | 1 | 2 | 0918 | | 2.50 | | 70 | |
| SYDNEY | 14 | 0040 | 0225 | 0122 | N13 | E30 | 5323 | | 2 | 2 | 0122 | 8.00 | 10.00 | | | |
| SYDNEY | 14 | 0040 | 0225 | 0212 | N11 | E32 | 5323 | 105 | 2 | 2 | 0212 | 7.00 | 8.00 | | | G-SWF |
| SYDNEY | 14 | 0052 | 0056 | 0052 | N31 | W55 | 5319 | 4 | 1 | 2 | 0052 | 1.00 | 2.00 | | | |
| KODAIKNL | 14 | 0210 E | 0220 D | 0215 | N12 | E27 | 5323 | 10 D | 1 | 1 | 0215 | 3.20 | 3.50 | 1.60 | 106 | |
| TASHKENT | 14 | 0210 E | 0517 | 0310 | N10 | E24 | 5323 | 187 D | 2 | 3 | 0316 | | 12.00 | 2.30 | | |
| SYDNEY | 14 | 0411 | 0438 | 0416 | N31 | W57 | 5319 | 27 | 1 | 2 | 0416 | 2.00 | 4.00 | | | |
| ABASTUMANI | 14 | 0554 E | 0607 D | 0559 U | N04 | E58 | 5328 | 13 D | 1 | 2 | 0559 | | 2.21 | | | |
| ONDREJOV | 14 | 0952 E | 1000 D | | N14 | E22 | 5323 | 8 D | 1 | 3 | 0954 | | | 2.30 | | |
| PIRCULI | 15 | 0805 | 0835 | 0820 | N15 | E06 | 5323 | 30 | 1 | 3 | 0820 | | 10.10 | | 50 | |
| ONDREJOV | 15 | 0806 E | 0840 | | N13 | E06 | 5323 | 34 D | 1 | 3 | 0819 | | | 2.10 | | |
| PIRCULI | 15 | 0926 | 0940 | 0935 | N15 | E06 | 5323 | 14 | 1 | 3 | 0935 | | 6.06 | | 47 | |
| CAPRI G | 15 | 0941 E | 0954 D | | N14 | E06 | 5323 | 13 D | 1 | | | | 4.00 | | | |
| CAPRI G | 15 | 1506 E | 1513 | | N14 | E06 | 5323 | 7 D | 1 | | | | 4.00 | | | |
| TASHKENT | 16 | 0709 | 0736 | 0716 | N15 | W18 | 5323 | 27 | 1& | 3 | 0716 | | 4.00 | | 130 | |
| CAPRI G | 16 | 0930 E | 0933 D | | N15 | W04 | 5323 | 3 D | 1 | | | | 3.00 | | | |
| VOROSHILOV | 17 | 0017 | 0045 | 0031 | N14 | W15 | 5323 | 28 | 1 | 2 | 0031 | | 2.53 | | 60 | |
| VOROSHILOV | 17 | 0100 | 0126 | 0107 | N14 | W15 | 5323 | 26 | 1 | 2 | 0107 | | 3.09 | | 73 | |
| KRASNYA | 17 | 0712 | 0732 | 0714 U | N14 | W18 | 5323 | 20 | 1 | 1 | 0714 | | 1.90 | | 120 | |
| ATHENS | 17 | 0716 E | 0737 | | N13 | W17 | 5323 | 21 D | 1 | 3 | | 2.10 | 2.20 | | | S-SWF |
| CAPRI G | 17 | 0729 E | 0735 | | N14 | W17 | 5323 | 6 D | 1 | | | | 3.00 | | | |
| KHARKOV | 17 | 1015 | 1039 | | N05 | E38 | 5329 | 24 | 1 | 3 | 1017 | | .20 | 1.90 | | |
| CAPRI G | 17 | 1126 E | 1139 | | N16 | W14 | 5323 | 13 D | 1 | | | | 3.00 | | | |
| CAPRI G | 17 | 1218 | 1238 | | N15 | W20 | 5323 | 20 | 1& | | | | 4.00 | | | |
| KIEV | 17 | 1219 | 1242 | 1230 | N14 | W22 | 5323 | 23 | 1& | 2 | 1230 | | 2.97 | | 123 | S-SWF |
| NEDERHORST | 17 | 1230 | 1245 D | | N15 | W22 | 5323 | 15 D | 2 | 2 | | | | | | |
| CAPRI G | 17 | 1406 | 1437 | | S06 | W46 | 5327 | 31 | 1 | | | | 4.00 | | | |
| CAPRI G | 17 | 1437 | 1502 | | N14 | W23 | 5323 | 25 | 2 | | | | 5.00 | | | Slow S-SWF |
| CAPRI G | 17 | 1518 | 1527 | | N07 | E40 | 5329 | 9 | 1 | | | | 3.00 | | | |
| MCMATH | 17 | 2046 | 2113 D | 2050 | N13 | W28 | 5323 | 27 D | 2 | 2 | 2050 | | 6.00 | | | S-SWF |
| VOROSHILOV | 18 | 0025 | 0039 | 0026 | N16 | W23 | 5323 | 14 | 1 | 1 | 0026 | | 2.67 | | 71 | |
| CAPRI G | 18 | 0608 E | 0614 D | | N15 | W31 | 5323 | 6 D | 1 | | | | 3.00 | | | |
| CAPRI G | 18 | 0628 | 0648 | | N07 | E30 | 5329 | 20 | 1 | | | | 3.00 | | | |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| KRASNYA | 18 | 0757 | 0817 | 0759 | N12 | E87 | 5336 | 20 | 1 | 2 | 0759 | | 4.00 | | 80 | |
| ONDREJOV | 18 | 0802 E | 0809 D | | N13 | E82 | 5336 | 7 D | 1 | 3 | 0803 | | | 2.10 | | |
| KRASNYA | 18 | 0807 | 0815 | 0809 | N06 | E29 | 5329 | 8 | 1 | 2 | 0809 | | 1.00 | | 150 | |
| GOOD HOPE | 18 | 0807 | 0820 | 0809 | N07 | E29 | 5329 | 13 | 1 | | 0809 | 2.30 | 2.60 | | | |
| ONDREJOV | 18 | 0809 E | 0819 | | N06 | E28 | 5329 | 10 D | 1& | 3 | 0811 | | | 3.50 | | |
| GOOD HOPE | 18 | 1014 | 1235 | 1030 | N12 | W32 | 5323 | 141 | 3 | | 1053 | 10.20 | 12.30 | | | |
| ONDREJOV | 18 | 1017 | 1158 D | | N13 | W34 | 5323 | 101 D | 2& | 2 | 1031 | | | 5.60 | | |
| KHARKOV | 18 | 1024 E | 1210 D | 1031 | N10 | W32 | 5323 | 106 D | 3 | 2 | 1032 | | 18.90 | 3.50 | | |
| ATHENS | 18 | 1025 E | 1225 | 1030 | N11 | W30 | 5323 | 120 D | 2 | 3 | | 5.00 | 5.60 | | | S-SWF |
| NEDERHORST | 18 | 1029 | 1230 D | | N15 | W35 | 5323 | 121 D | 3& | 2 | | | | | | |
| UCCLE | 18 | 1123 | 1127 D | 1127 | N15 | W32 | 5323 | 4 D | 2 | 3 | | | | | | S-SWF |
| NEDERHORST | 18 | 1125 E | 1132 D | | N04 | E16 | 5329 | 7 D | 1 | 2 | | | | | | |
| KIEV | 18 | 1137 E | 1147 D | 1139 U | N12 | W35 | 5323 | 10 D | 1& | 2 | 1139 | | 7.66 | | 69 | |
| UCCLE | 18 | 1138 E | | 1138 | N15 | W35 | 5323 | | 3 | 3 | 1138 | 14.00 | 17.00 | | | |
| CAPRI G | 18 | 1145 E | 1350 | | N13 | W32 | 5323 | 125 D | 3 | | | | 10.00 | | | |
| MCMATH | 18 | 1154 E | 1204 D | | N11 | W35 | 5323 | 10 D | 1& | 1 | 1203 | | 3.50 | | | |
| CAPRI G | 18 | 1301 | 1316 | | N07 | E27 | 5329 | 15 | 1 | | | | 3.00 | | | |
| CAPRI G | 18 | 1406 | 1417 | | N05 | E11 | 5329 | 11 | 1 | | | | 3.00 | | | |
| NEDERHORST | 18 | 1408 E | 1411 D | | N04 | E16 | 5329 | 3 D | 1 | 2 | | | | | | |
| NEDERHORST | 18 | 1408 E | 1411 D | | N07 | E18 | 5329 | 3 D | 1 | 2 | | | | | | |
| MCMATH | 18 | 1452 | 1530 | 1500 | N05 | E18 | 5329 | 38 | 1 | 1 | 1500 | | 2.00 | | | |
| CAPRI G | 18 | 1455 | 1512 | | N05 | E17 | 5329 | 17 | 1 | | | | 4.00 | | | |
| UCCLE | 18 | 1500 E | | | N05 | E15 | 5329 | | 1 | 4 | | | | | | |
| ONDREJOV | 18 | 1500 E | 1516 | | N05 | E14 | 5329 | 16 D | 1 | 3 | 1500 | | | 2.30 | | |
| CAPRI G | 18 | 1457 | 1520 | | N13 | W35 | 5323 | 23 | 1 | | | | 3.00 | | | |
| ONDREJOV | 18 | 1527 | 1540 | 1531 | N15 | W38 | 5323 | 13 | 1 | 3 | 1531 | | | 4.60 | | |
| MCMATH | 18 | 1618 | 1639 D | 1623 | N13 | W40 | 5323 | 21 D | 1 | 1 | 1623 | | 2.00 | | | Slow S-SWF |
| MCMATH | 18 | 1654 | 1820 D | 1725 | N03 | E16 | 5329 | 86 D | 2& | 1 | 1725 | | 8.50 | | | |
| MCMATH | 18 | 1655 | 1735 | 1708 | N10 | W40 | 5323 | 40 | 1 | 1 | 1708 | | 2.00 | | | Slow S-SWF |
| GOOD HOPE | 19 | 0850 | 0858 | 0851 | N10 | E80 | 5336 | 8 | 1 | | 0851 | .60 | | | | |
| KHARKOV | 19 | 0850 E | 0859 | | N16 | E80 | 5336 | 9 D | 1 | 1 | 0853 | | 5.80 | 2.40 | | |
| ONDREJOV | 19 | 0851 E | 0855 | | N15 | E72 | 5336 | 4 D | 1 | 3 | 0851 | | | 4.30 | | |
| ONDREJOV | 19 | 1024 | 1055 | 1032 | N15 | W49 | 5323 | 31 | 1 | 3 | 1032 | | | 2.89 | | |
| CAPRI G | 19 | 1027 | 1047 | | N15 | W49 | 5323 | 20 | 1 | | | | 3.00 | | | |
| UCCLE | 19 | 1039 E | | | N15 | W50 | 5323 | | 1 | 4 | | | | | | |
| UCCLE | 19 | 1138 | 1144 | | S26 | E27 | 5337 | 6 | 1 | 4 | | | | | | |
| CAPRI G | 19 | 1215 E | 1221 | | N03 | E12 | 5329 | 6 D | 1 | | | | 3.00 | | | |
| CAPRI G | 19 | 1310 | 1321 | | N13 | E64 | 5336 | 11 | 1 | | | | 3.00 | | | |
| CAPRI G | 19 | 1354 | 1407 | | N13 | E64 | 5336 | 13 | 1 | | | | 3.00 | | | |
| ONDREJOV | 19 | 1357 E | 1405 | | N13 | E73 | 5336 | 8 D | 1 | 3 | 1358 | | | 2.08 | | |
| MCMATH | 19 | 1742 | 1810 | 1748 | N14 | W55 | 5323 | 28 | 1 | 1 | 1752 | | 2.00 | | | S-SWF |
| SYDNEY | 20 | 0057 | 0115 | 0103 | N16 | W54 | 5323 | 18 | 1 | 2 | 0103 | 1.50 | 2.00 | | | |
| SYDNEY | 20 | 0310 | 0327 | 0317 | N15 | E92 | 5339 | 17 | □ | 3 | 0317 | .75 | | | | |
| TASHKENT | 20 | 0314 | 0324 D | 0315 | N14 | E86 | 5339 | 10 D | 1 | 1 | 0316 | | | 4.00 | 60 | |
| SYDNEY | 20 | 0335 | 0344 | 0340 | N12 | E61 | 5336 | 9 | 1 | 2 | 0340 | 1.00 | 2.00 | | | |
| SYDNEY | 20 | 0355 | 0406 | 0359 | N12 | E61 | 5336 | 11 | 1 | 2 | 0359 | 1.00 | 2.00 | | | |
| SYDNEY | 20 | 0438 | 0454 D | 0443 | N15 | E92 | 5339 | 16 D | □ | 3 | 0443 | .50 | | | | |
| TASHKENT | 20 | 0442 | 0516 | | N14 | E85 | 5339 | 34 | 1 | 1 | 0459 | | | 5.10 | 55 | |
| SYDNEY | 20 | 0446 | 0454 D | 0452 | N16 | W61 | 5323 | 8 D | 1 | 2 | 0452 | 1.50 | 3.00 | | | |
| TASHKENT | 20 | 0454 E | 0457 | | N14 | W58 | 5323 | 3 D | 1 | 1 | 0454 | | 4.00 | 2.30 | | |
| TASHKENT | 20 | 0530 | 0630 | 0537 | S06 | W02 | 5330 | 60 | 1& | 1 | 0537 | | 8.00 | 2.50 | 80 | |

# SOLAR FLARES

## AUGUST 1959

| OBSERVATORY | DATE AUG 1959 | OBSERVED UNIVERSAL TIME START | OBSERVED UNIVERSAL TIME END | OBSERVED UNIVERSAL TIME MAX. PHASE | LOCATION APPROX. LAT. | LOCATION APPROX. MER. DIST. | LOCATION McMATH PLAGE REGION | DURATION — MINUTES | IMPORTANCE | OBS. COND. | MEASUREMENTS TIME — U T | MEAS. AREA Sq. Deg. | CORR. AREA Sq. Deg. | MAX. WIDTH Hα | MAX. INT. % | PROVISIONAL IONOSPHERIC EFFECT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ONDREJOV | 20 | 0540 E | 0609 | | N04 | W07 | 5329 | 29 D | 1& | 3 | 0542 | | | 2.67 | | |
| ABASTUMANI | 20 | 0549 E | 0726 D | 0605 | N06 | W02 | 5329 | 97 D | 2- | 2 | | | 8.80 | | 84 | |
| KHARKOV | 20 | 0910 E | 0950 | | N15 | E85 | 5339 | 40 D | 1 | 1 | 0915 | | 0.00. | 1.70 | | S-SWF |
| GOOD HOPE | 20 | 0917 | 0939 | 0926 | N13 | E87 | 5339 | 22 | 1 | | 0926 | 1.10 | | | | |
| UCCLE | 20 | 1056 | 1105 | 1057 | N13 | E75 | 5339 | 9 | 1 | 4 | | | | | | |
| GOOD HOPE | 20 | 1057 | 1105 | 1058 | N13 | E58 | 5336 | 8 | 1 | | 1058 | 1.10 | 2.10 | | | |
| KHARKOV | 20 | 1057 | 1111 | | N16 | E54 | 5336 | 14 | 1 | 1 | 1100 | | 2.80 | 2.20 | | |
| CAPRI G | 20 | 1221 E | 1229 D | | N24 | W65 | 5323 | 8 D | 1 | | | | 3.00 | | | |
| GOOD HOPE | 20 | 1222 | 1229 | 1225 | N22 | W70 | 5323 | 7 | 1 | | 1225 | 1.00 | 2.90 | | | |
| ONDREJOV | 20 | 1258 E | 1314 D | | N18 | E87 | 5339 | 16 D | 1 | 2 | 1302 | | | 2.65 | | G-SWF |
| ONDREJOV | 20 | 1341 E | 1344 | | N16 | E63 | 5336 | 3 D | 1& | 3 | 1341 | | | 4.05 | | |
| SYDNEY | 21 | 0208 | 0213 D | | N21 | W72 | 5323 | 5 D | 1 | 3 | 0209 | .50 | 2.00 | | | |
| SYDNEY | 21 | 0302 | 0322 | 0309 | N25 | W65 | 5323 | 20 | 1 | 3 | 0309 | 1.00 | 2.00 | | | |
| GOOD HOPE | 21 | 0635 E | 0646 | | N08 | W12 | 5329 | 11 D | 1 | | 0636 | 2.60 | 2.70 | | | |
| CAPRI G | 21 | 0636 | 0642 | | N08 | W10 | 5329 | 6 | 1 | | | | 3.00 | | | |
| ONDREJOV | 21 | 0640 | 0657 D | | N03 | W24 | 5329 | 17 D | 1& | 3 | 0642 | | | 2.64 | | |
| GOOD HOPE | 21 | 0640 | 0708 | 0643 | N04 | W22 | 5329 | 28 | 1& | | 0643 | 4.50 | 4.90 | | | |
| CAPRI G | 21 | 0643 | 0717 | | N06 | W24 | 5329 | 34 | 2 | | | | 6.00 | | | |
| GOOD HOPE | 21 | 0723 | 0745 | 0728 | N23 | W77 | 5323 | 22 | 1 | | 0728 | 1.00 | | | | |
| GOOD HOPE | 21 | 0854 | 0950 | 0905 | N07 | W16 | 5329 | 56 | 1 | | 0905 | 2.50 | 2.60 | | | |
| ONDREJOV | 21 | 0859 E | 0926 | | N07 | W16 | 5329 | 27 D | 1 | 3 | 0904 | | | 2.65 | | |
| CAPRI G | 21 | 0958 | 1025 | | N07 | W15 | 5329 | 27 | 1& | | | | 4.00 | | | |
| UCCLE | 21 | 1128 | 1132 | 1138 | N15 | E44 | 5336 | 4 | 1 | 4 | | | | | | |
| CAPRI G | 21 | 1129 | 1139 | | N13 | E42 | 5336 | 10 | 1 | | | | 4.00 | | | |
| GOOD HOPE | 21 | 1129 | 1142 | 1133 | N12 | E43 | 5336 | 13 | 1 | | 1133 | 2.00 | 2.70 | | | |
| KHARKOV | 21 | 1129 | 1144 | | N14 | E42 | 5336 | 15 | 1 | 1 | 1134 | | 2.40 | 2.40 | | |
| ONDREJOV | 21 | 1135 E | 1139 D | | N10 | E43 | 5336 | 4 D | 1 | 2 | 1137 | | | 2.65 | | |
| CAPRI G | 21 | 1205 | 1218 | | N09 | W17 | 5329 | 13 | 1 | | | | 3.00 | | | |
| CAPRI G | 21 | 1256 | 1308 | | N09 | W14 | 5329 | 12 | 1 | | | | 3.00 | | | |
| CAPRI G | 21 | 1306 | 1314 | | N17 | E80 | 5339 | 8 | 1 | | | | 3.00 | | | |
| ONDREJOV | 21 | 1448 | 1457 | 1450 | N11 | E43 | 5336 | 9 | 1 | 3 | 1450 | | | 2.44 | | |
| ONDREJOV | 21 | 1611 E | 1627 | | N06 | W25 | 5329 | 16 D | 1 | 3 | 1613 | | | 2.21 | | |
| ONDREJOV | 21 | 1637 E | 1653 | | N07 | W24 | 5329 | 16 D | 1& | 3 | 1648 | | | 2.31 | | Slow S-SWF |
| MCMATH | 21 | 1642 E | 1720 D | | N06 | W21 | 5329 | 38 D | 1 | 1 | 1642 | | 2.00 | | | |
| VOROSHILOV | 21 | 2312 | 2320 | 2314 | N24 | E72 | 5339 | 8 | 1 | 2 | 2314 | | 2.17 | | 65 | |
| SYDNEY | 22 | 0443 | 0503 D | 0459 | N15 | E68 | 5339 | 20 D | 1 | 3 | 0459 | 1.00 | 3.00 | | | |
| GOOD HOPE | 22 | 0721 | 0738 | 0727 | N04 | W27 | 5329 | 17 | 1 | | 0727 | 2.50 | 2.80 | | | |
| KRASNYA | 22 | 0725 | 0737 | 0728 | N04 | W28 | 5329 | 12 | 1 | 2 | 0728 | | 1.10 | | 120 | |
| KRASNYA | 22 | 0743 | 0801 | 0743 | N09 | W39 | 5329 | 18 | 1 | 2 | 0743 | | 1.10 | | 85 | |
| KRASNYA | 22 | 0822 | 0915 | 0843 | N08 | W39 | 5329 | 53 | 1 | 2 | 0843 | | 1.10 | | 95 | |
| ONDREJOV | 22 | 0845 E | 0853 | | N08 | W39 | 5329 | 8 D | 1 | 3 | 0845 | | | 2.08 | | |
| ONDREJOV | 22 | 1310 | 1342 | | N15 | E60 | 5339 | 32 | 2 | 3 | 1315 | | | 4.26 | | |
| MCMATH | 22 | 1310 | 1345 | 1315 | N15 | E60 | 5339 | 35 | 1& | 3 | 1315 | | 4.00 | | | Slow S-SWF |
| KIEV | 22 | 1312 | 1341 D | 1319 | N17 | E61 | 5339 | 29 D | 2 | 2 | 1319 | | 7.34 | | 117 | |
| CAPRI G | 22 | 1326 E | 1338 | | N17 | E59 | 5339 | 12 D | 2 | | | | 5.00 | | | |
| ATHENS | 22 | 1513 E | 1528 | 1518 | S10 | E90 | 5340 | 15 D | 2 | 3 | | .80 | 8.20 | | | |
| MCMATH | 22 | 1514 | 1535 | 1519 | S11 | E87 | 5340 | 21 | 1& | 2 | | | | | | S-SWF |
| CAPRI G | 22 | 1518 | 1536 | | S10 | E74 | 5340 | 18 | 1 | | | | 4.00 | | | |
| ONDREJOV | 22 | 1525 E | 1539 | | N09 | E76 | 5341 | 14 D | 1 | 2 | 1525 | | | 2.80 | | S-SWF |
| MCMATH | 22 | 1814 E | 2000 D | | N09 | W39 | 5329 | 106 D | 1 | 1 | 1900 | | 3.00 | | | |
| SYDNEY | 23 | 0135 | 0204 | 0141 | N18 | E29 | 5336 | 29 | 1 | 2 | 0141 | 3.00 | 4.00 | | | |

# SOLAR FLARES

## AUGUST 1959

| OBSERVATORY | DATE AUG 1959 | OBSERVED UNIVERSAL TIME START | END | MAX. PHASE | LOCATION APPROX. LAT. | MER. DIST. | McMATH PLAGE REGION | DURATION — MINUTES | IMPORTANCE | OBS. COND. | MEASUREMENTS TIME — U T | MEAS. AREA Sq. Deg. | CORR. AREA Sq. Deg. | MAX. WIDTH Ha | MAX. INT. % | PROVISIONAL IONOSPHERIC EFFECT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TASHKENT | 23 | 0318 | 0336 | 0328 | N08 | W38 | 5329 | 18 | 1 | 2 | 0398 | | 4.00 | 3.60 | 115 | |
| ALMA-ATA | 23 | 0318 | 0343 | 0326 | N08 | W37 | 5329 | 25 | 2& | 2 | 0326 | | 16.30 | | 240 | |
| SYDNEY | 23 | 0320 | 0347 | 0325 | N09 | W37 | 5329 | 27 | 1 | 3 | 0325 | 3.00 | 4.00 | | | |
| ONDREJOV | 23 | 0627 | 0644 | 0632 | N18 | E28 | 5336 | 17 | 1 | 3 | 0632 | | | 2.53 | | |
| KRASNYA | 23 | 0851 | 0901 | 0851 | N04 | W54 | 5329 | 10 | 1 | 2 | 0851 | | 1.50 | | 95 | |
| GOOD HOPE | 23 | 0851 | 0903 | 0853 | N03 | W54 | 5329 | 12 | 1 | | 0853 | 1.30 | 2.20 | | | |
| KRASNYA | 23 | 0853 | 0929 | 0859 | N09 | W48 | 5329 | 36 | 1 | 2 | 0859 | | 1.50 | | 85 | |
| GOOD HOPE | 23 | 0853 | 0937 | 0856 | N08 | W47 | 5329 | 44 | 1 | | 0856 | 2.00 | 2.90 | | | |
| KHARKOV | 23 | 0853 | 0938 | | N08 | W48 | 5329 | 45 | 1& | 2 | 0858 | | 4.80 | 2.20 | | |
| ONDREJOV | 23 | 0856 E | 0942 | | N07 | W45 | 5329 | 46 D | 1& | 3 | 0859 | | | 3.22 | | |
| CAPRI G | 23 | 0900 E | | | N08 | W47 | 5329 | | 1 | | | | 4.00 | | | |
| ONDREJOV | 23 | 0945 | 1009 | 0955 | S07 | E68 | 5340 | 24 | 1 | 3 | 0955 | | | 2.08 | | |
| KIEV | 23 | 1157 | 1249 | 1207 | N19 | E25 | 5336 | 52 | 2 | 2 | 1207 | | 8.97 | | 87 | |
| ONDREJOV | 23 | 1158 E | 1249 | | N20 | E26 | 5336 | 51 D | 1& | 3 | 1222 | | | 2.44 | | |
| GOOD HOPE | 23 | 1158 | 1250 | 1205 | N20 | E26 | 5336 | 52 | 1 | | 1205 | 3.10 | 3.50 | | | |
| KHARKOV | 23 | 1202 | 1255 D | | N18 | E26 | 5336 | 53 D | 2 | 2 | 1216 | | 12.60 | 2.20 | | |
| TASHKENT | 24 | 0332 | 0358 D | 0335 | N16 | E27 | 5339 | 26 D | 1 | 2 | 0335 | | 4.00 | 3.30 | 70 | |
| KRASNYA | 24 | 0713 | 0723 | 0715 | S12 | W43 | 5330 | 10 | 1 | 2 | 0715 | | 1.00 | | 85 | |
| KRASNYA | 24 | 0742 | 0752 | 0742 U | N17 | E08 | 5336 | 10 | 1 | 2 | 0742 | | .80 | | 75 | |
| ONDREJOV | 24 | 1100 E | 1127 | | S10 | E53 | 5340 | 27 D | 1 | 3 | 1104 | | | 2.65 | | |
| SYDNEY | 25 | 0153 E | 0203 | | N24 | E33 | 5339 | 10 D | 2 | 2 | 0153 | 4.00 | 5.00 | | | |
| SYDNEY | 25 | 0339 | 0439 | 0348 | N10 | E47 | 5341 | 60 | 1 | 3 | 0348 | 1.50 | 2.00 | | | |
| ALMA-ATA | 25 | 0345 E | 0410 | 0345 | N10 | E49 | 5341 | 25 D | 1& | 2 | 0345 | | 10.30 | | 166 | |
| SYDNEY | 25 | 0421 | 0448 | 0425 | S22 | W49 | 5337 | 27 | 1 | 3 | 0425 | 1.50 | 3.00 | | | |
| ALMA-ATA | 25 | 0457 | 0517 | 0501 | N02 | W66 | 5329 | 20 | 3 | 2 | 0501 | | 47.90 | | 230 | |
| SYDNEY | 25 | 0500 | 0522 | 0503 | S02 | W62 | 5330 | 22 | 2 | 3 | 0503 | 5.00 | 10.00 | | | |
| CAPRI G | 25 | 0623 | 0718 | | N17 | E01 | 5336 | 55 | □ | | | | | | | |
| ATHENS | 25 | 0625 | 0720 | | N22 | E02 | 5336 | 55 | 3 | 3 | | 15.70 | 15.90 | | | |
| ONDREJOV | 25 | 0627 | 0726 | 0634 | N20 | E02 | 5336 | 59 | 2 | 3 | 0634 | | | 4.54 | | S-SWF |
| TASHKENT | 25 | 0635 E | 0642 D | | N21 | E00 | 5336 | 7 D | 1& | 1 | 0635 | | 8.00 | | | |
| GOOD HOPE | 25 | 0658 E | 0728 | | N20 | E01 | 5336 | 30 D | 2 | | 0658 | 6.00 | 6.20 | | | |
| KHARKOV | 25 | 0850 E | 1209 D | | S03 | E85 | 5343 | 199 D | 1 | 2 | 0918 | | | 3.80 | | |
| UCCLE | 25 | 1045 | | | N08 | W87 | 5329 | | 1 | 4 | | | | | | |
| GOOD HOPE | 25 | 1045 | 1114 | 1102 | N08 | W85 | 5329 | 29 | 1 | | 1102 | 2.00 | | | | |
| KHARKOV | 25 | 1051 | 1120 D | 1056 | N07 | W85 | 5329 | 29 D | 1& | 3 | 1106 | | 5.00 | 2.40 | | |
| KIEV | 25 | 1103 E | 1112 | 1103 U | N09 | W90 | 5329 | 9 D | 1& | 2 | 1103 | | | | 96 | |
| KHARKOV | 25 | 1105 E | 1211 D | | N07 | W85 | 5329 | 66 D | 1 | 3 | 1116 | | | 4.40 | | |
| KIEV | 25 | 1103 E | 1211 | 1135 | S06 | E90 | 5343 | 68 D | 1& | 2 | 1135 | | | | 81 | |
| MCMATH | 25 | 1110 E | 1155 | | S05 | E90 | 5343 | 45 D | 1 | 1 | | | | | | |
| GOOD HOPE | 25 | 1246 | 1300 | 1252 | N07 | W85 | 5329 | 14 | 1 | | 1252 | 1.30 | | | | |
| CAPRI G | 26 | 0602 | 0617 | | N20 | E16 | 5339 | 15 | 1 | | | | 3.00 | | | |
| ABASTUMANI | 26 | 0602 | 0625 | 0605 | N16 | E12 | 5339 | 23 | 1 | 2 | | | 2.30 | | 65 | |
| ATHENS | 26 | 0607 E | 0622 | | N15 | E11 | 5339 | 15 D | 1& | 3 | | 3.70 | 3.70 | | | |
| CAPRI G | 26 | 0646 | 0701 | | S10 | E35 | 5340 | 15 | 1 | | | | 3.00 | | | |
| ATHENS | 26 | 0658 | 0720 | | S12 | E34 | 5340 | 22 | 1& | 3 | | 3.00 | 3.80 | | | |
| ATHENS | 26 | 0710 | 0725 | | S23 | W73 | 5337 | 15 | 1 | 3 | | .80 | 2.90 | | | |
| GOOD HOPE | 26 | 0712 | 0722 | 0715 | S23 | W70 | 5337 | 10 | 1& | | 0715 | 1.60 | 5.20 | | | |
| GOOD HOPE | 26 | 0844 | 0900 | 0850 | N10 | E33 | 5341 | 16 | 1 | | 0850 | 2.50 | 3.00 | | | |
| GOOD HOPE | 26 | 0911 | 0940 | 0914 | S11 | E34 | 5340 | 29 | 1 | | 0914 | 1.60 | 2.10 | | | S-SWF |
| CAPRI G | 26 | 0914 | 0936 | | S10 | E33 | 5340 | 22 | 1 | | | | 3.00 | | | |

COMMERCE - STANDARDS - BOULDER

# SOLAR FLARES

## AUGUST 1959

| OBSERVATORY | DATE AUG 1959 | OBSERVED UNIVERSAL TIME START | OBSERVED UNIVERSAL TIME END | OBSERVED UNIVERSAL TIME MAX. PHASE | LOCATION APPROX. LAT. | LOCATION APPROX. MER. DIST. | LOCATION McMATH PLAGE REGION | DURATION — MINUTES | IMPORTANCE | OBS. COND. | MEASUREMENTS TIME — U T | MEASUREMENTS MEAS. AREA Sq. Deg. | MEASUREMENTS CORR. AREA Sq. Deg. | MEASUREMENTS MAX. WIDTH Hα | MEASUREMENTS MAX. INT. % | PROVISIONAL IONOSPHERIC EFFECT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CAPRI G | 26 | 0917 | 0937 | | N24 | E16 | 5339 | 20 | 1 | | | | 3.00 | | | |
| KHARKOV | 26 | 1037 E | 1047 D | | N11 | E85 | 5344 | 10 D | 1& | 1 | 1042 | | 16.00 | 2.20 | | |
| KIEV | 26 | 1053 E | 1204 | 1150 | N19 | E15 | 5339 | 71 D | 1& | 2 | 1150 | | 8.62 | | 66 | |
| GOOD HOPE | 26 | 1126 | 1150 | 1131 | S23 | W72 | 5337 | 24 | 1 | | 1131 | .70 | | | | |
| KIEV | 26 | 1235 | 1303 | 1242 | S16 | E28 | 5340 | 28 | 1& | 2 | 1242 | | 3.09 | | 87 | |
| GOOD HOPE | 26 | 1238 | 1300 | 1242 | S09 | E27 | 5340 | 22 | 1 | | 1242 | 2.10 | 2.50 | | | |
| CAPRI G | 26 | 1239 | 1256 | | S09 | E27 | 5340 | 17 | 1& | | | | 4.00 | | | |
| ONDREJOV | 26 | 1240 E | 1259 | | S08 | E26 | 5340 | 19 D | 1& | 3 | 1240 | | | 3.34 | | |
| ONDREJOV | 26 | 1335 | 1341 | | S10 | E26 | 5340 | 6 | 1 | 3 | 1338 | | | 3.22 | | |
| KIEV | 26 | 1336 | 1342 | 1338 | S18 | E26 | 5340 | 6 | 1 | 2 | 1338 | | 2.10 | | 56 | |
| ONDREJOV | 26 | 1343 E | 1357 | | N10 | E20 | 5341 | 14 D | 1 | 3 | 1344 | | | 2.20 | | |
| MCMATH | 26 | 1418 | 1450 | | N12 | E90 | 5344 | | 1 | 1 | | | | | | |
| ONDREJOV | 26 | 1437 E | 1501 | | N15 | E07 | 5339 | 24 D | 1 | 3 | 1441 | | | 2.89 | | |
| MCMATH | 26 | 1438 | 1500 D | 1444 | N18 | E10 | 5339 | 22 D | 1 | 2 | 1444 | | 2.00 | | | |
| CAPRI G | 26 | 1532 | 1558 | | N25 | E12 | 5339 | 26 | 1 | | | | 3.00 | | | |
| MCMATH | 26 | 1611 | 1635 | | N17 | E04 | 5339 | | 1 | 2 | 1618 | | 2.00 | | | |
| ONDREJOV | 26 | 1613 E | 1632 | | N15 | E03 | 5339 | 19 D | 1& | 3 | 1616 | | | 2.58 | | |
| CAPRI G | 26 | 1617 | 1630 D | | N17 | E05 | 5339 | 13 D | 1 | | | | 3.00 | | | |
| VOROSHILOV | 27 | 0057 E | 0100 D | | S10 | E22 | 5340 | 3 D | 1& | 2 | 0100 | | 2.95 | | 170 | |
| ABASTUMANI | 27 | 0552 E | 0620 D | 0553 U | N14 | E11 | 5341 | 28 D | 1 | 3 | | | 3.40 | | 76 | |
| PIRCULI | 27 | 0556 E | 0615 | 0604 | N25 | E05 | 5339 | 19 D | 1 | 3 | 0604 | | 6.36 | | 48 | |
| KRASNYA | 27 | 0700 E | 0719 D | | S23 | E88 | 5350 | 19 D | 1 | 2 | 0719 | | 1.50 | | 85 | |
| KRASNYA | 27 | 0734 E | 0806 D | 0735 U | S23 | E88 | 5350 | 32 D | 1 | 2 | 0735 | | 1.30 | | 80 | |
| PIRCULI | 27 | 0840 | 0850 | 0845 | S09 | E17 | 5340 | 10 | 1 | 3 | 0845 | | 5.70 | | 52 | |
| CAPRI G | 27 | 0940 E | 0955 | | S09 | E14 | 5340 | 15 D | 1 | | | | 4.00 | | | |
| PIRCULI | 27 | 0933 E | 0958 | 0945 | N25 | E05 | 5339 | 25 D | 1& | 3 | 0958 | | 9.54 | | 56 | |
| CAPRI G | 27 | 0940 E | 0951 | | N09 | E36 | 5341 | 11 D | 1 | | | | 3.00 | | | |
| KHARKOV | 27 | 1044 E | 1150 | | S20 | W87 | 5337 | 72 D | 1 | 1 | 1130 | | 3.00 | 3.20 | | |
| CAPRI G | 27 | 1130 E | 1142 | | S23 | W90 | 5337 | 12 D | 1 | | | | | | | |
| ONDREJOV | 27 | 1135 E | 1139 | | S23 | W85 | 5337 | 4 D | 1 | 3 | 1136 | | | 3.00 | | |
| KHARKOV | 27 | 1116 E | 1207 | | N26 | W01 | 5339 | 51 D | 1 | 1 | 1130 | | 1.80 | 1.70 | | |
| CAPRI G | 27 | 1130 E | 1146 | | N25 | E00 | 5339 | 16 D | 1 | | | | 4.00 | | | |
| KIEV | 27 | 1208 | 1241 | 1220 | N12 | W05 | 5339 | 33 | 1 | 2 | 1220 | | 2.66 | | 52 | |
| CAPRI G | 27 | 1258 | 1317 | | S09 | E12 | 5340 | 19 | 1 | | | | 4.00 | | | |
| CAPRI G | 27 | 1424 E | 1441 | | S09 | E11 | 5340 | 17 D | 1 | | | | 4.00 | | | |
| ONDREJOV | 27 | 1429 E | 1431 D | | S10 | E12 | 5340 | 2 D | 1 | 2 | 1429 | | | 2.76 | | |
| CAPRI G | 27 | 1559 | 1620 | | N16 | W20 | 5339 | 21 | 1& | | | | 5.00 | | | |
| MCMATH | 27 | 1600 | 1625 D | 1603 | N16 | W21 | 5339 | 25 D | 1& | 2 | 1603 | | 4.00 | | | |
| CAPRI G | 27 | 1604 | 1615 | | N26 | E00 | 5339 | 11 | 1 | | | | 4.00 | | | |
| CAPRI G | 27 | 1616 | 1625 D | | N15 | W38 | 5336 | 9 D | 1 | | | | 4.00 | | | |
| SYDNEY | 28 | 0035 E | | | N13 | E72 | 5347 | | 1 | 1 | 0035 | 1.50 | 4.00 | | | G-SWF |
| SYDNEY | 28 | 0111 E | 0123 D | 0113 | N13 | E69 | 5347 | 12 D | 1 | 1 | 0113 | 1.50 | 4.00 | | | G-SWF |
| SYDNEY | 28 | 0134 | 0204 | 0153 | N15 | E67 | 5347 | 30 | 1 | 1 | 0153 | 1.00 | 3.00 | | | G-SWF |
| TASHKENT | 28 | 0424 | 0448 | 0431 | N14 | W03 | 5341 | 24 | 1 | 3 | 0431 | | 3.00 | 2.50 | 70 | |
| TASHKENT | 28 | 0544 | 0607 D | 0547 | S08 | E05 | 5340 | 23 D | 1 | 3 | 0547 | | 2.00 | 2.40 | 70 | |
| ABASTUMANI | 28 | 0545 | 0809 D | 0547 | S08 | E04 | 5340 | 144 D | 1 | 3 | 0813 | | 4.40 | 1.90 | 73 | |
| ABASTUMANI | 28 | 0609 | 0717 | 0619 | N24 | W13 | 5339 | 68 | 1& | 3 | | | 5.90 | | 73 | |
| ATHENS | 28 | 0613 | 0650 | | N21 | W14 | 5339 | 37 | 1& | 3 | | 4.00 | 4.20 | | | |
| ATHENS | 28 | 0613 | 0650 | | N24 | W08 | 5339 | 37 | 1& | 3 | | 3.70 | 3.80 | | | |
| ABASTUMANI | 28 | 0754 | 0809 D | 0755 | N20 | E60 | 5348 | 15 D | 2 | 3 | | | 4.60 | | 113 | |
| KHARKOV | 28 | 1037 E | 1112 D | | N21 | W85 | 5334 | 35 D | 1 | 1 | 1048 | | 3.00 | 1.50 | | |

# SOLAR FLARES

## AUGUST 1959

| OBSERVATORY | DATE AUG 1959 | OBSERVED UNIVERSAL TIME START | OBSERVED UNIVERSAL TIME END | OBSERVED UNIVERSAL TIME MAX. PHASE | LOCATION APPROX. LAT. | LOCATION APPROX. MER. DIST. | LOCATION McMATH PLAGE REGION | DURATION — MINUTES | IMPORTANCE | OBS. COND. | MEASUREMENTS TIME — U T | MEASUREMENTS MEAS. AREA Sq. Deg. | MEASUREMENTS CORR. AREA Sq. Deg. | MEASUREMENTS MAX. WIDTH Hα | MEASUREMENTS MAX. INT. % | PROVISIONAL IONOSPHERIC EFFECT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| KHARKOV | 28 | 1104 E | 1135 | | N24 | W14 | 5339 | 31 D | 1 | 1 | 1105 | | 1.20 | 1.90 | | |
| KHARKOV | 28 | 1132 E | 1151 | | N10 | E59 | 5347 | 19 D | 1& | 1 | 1144 | | 2.30 | 1.80 | | |
| CAPRI G | 28 | 1356 E | 1402 | | S08 | W02 | 5340 | 6 D | 1 | | | | 3.00 | | | |
| MCMATH | 28 | 1656 E | 1720 D | | N14 | W08 | 5341 | 24 D | 1 | 2 | 1657 | | 2.20 | | | |
| SYDNEY | 29 | 0044 E | 0101 D | | N10 | W04 | 5341 | 17 D | 1 | 1 | 0046 | 3.00 | 3.00 | | | |
| TASHKENT | 29 | 0425 | 0601 D | 0430 | S11 | W04 | 5340 | 96 D | 1 | 3 | 0428 | | 3.00 | 2.90 | 65 | |
| CAPRI G | 29 | 0552 | 0604 | | S10 | W06 | 5340 | 12 | 1 | | | | 4.00 | | | |
| KRASNYA | 29 | 0823 E | 0900 | | N14 | W13 | 5341 | 37 D | 1 | 2 | 0829 | | 1.10 | | 65 | |
| KRASNYA | 29 | 0900 | 0928 D | 0902 | S11 | W07 | 5340 | 28 D | 1 | 2 | 0902 | | 1.50 | | 80 | |
| CAPRI G | 29 | 0903 E | 0912 | | S11 | W07 | 5340 | 9 D | 1 | | | | 3.00 | | | |
| MCMATH | 29 | 1305 E | 1320 | | N17 | W21 | 5341 | 15 D | 1 | 3 | 1305 | | 2.00 | | | |
| CAPRI G | 29 | 1315 | 1334 | | N27 | W27 | 5339 | 19 | 1 | | | | 3.00 | | | |
| CAPRI G | 29 | 1330 | 1355 | | N14 | W55 | 5336 | 25 | 1 | | | | 3.00 | | | |
| MCMATH | 29 | 1653 | 1720 D | | N23 | W27 | 5339 | 27 D | 1 | 1 | 1700 | | 2.00 | | | Slow S-SWF |
| MCMATH | 29 | 1721 | 1742 | 1728 | N07 | E38 | 5344 | 21 | 1 | 2 | 1730 | | 2.00 | | | S-SWF |
| SYDNEY | 30 | 0210 | 0237 | 0219 | N21 | W30 | 5339 | 27 | 2 | 3 | 0219 | 5.00 | 6.00 | | | |
| TASHKENT | 30 | 0242 E | 0310 | | N19 | W35 | 5339 | 28 D | 1& | 2 | 0243 | | 13.00 | | | |
| TASHKENT | 30 | 0355 | 0436 | 0420 | N12 | E37 | 5347 | 41 | 1 | 2 | 0420 | | 4.00 | 2.40 | 65 | |
| ABASTUMANI | 30 | 0528 E | 0734 D | 0642 U | S15 | E89 | 5353 | 126 D | 1& | 1 | | | 11.70 | | | |
| ONDREJOV | 30 | 0629 | 0653 | | S11 | E78 | 5353 | 24 | 1 | 3 | 0633 | | | 3.74 | | Slow S-SWF |
| ATHENS | 30 | 0633 | 0708 | | S11 | E85 | 5353 | 35 | 1& | 3 | | .70 | 4.70 | | | |
| CAPRI G | 30 | 0635 E | 0659 | | S11 | E80 | 5353 | 24 D | 1& | | | | 4.00 | | | |
| ABASTUMANI | 30 | 0657 | 0709 D | 0659 | S10 | W23 | 5340 | 12 D | 1 | 1 | | | 5.50 | | | Slow S-SWF |
| KRASNYA | 30 | 0701 E | 0813 | 0705 U | N11 | W70 | 5336 | 72 D | 1 | 2 | 0705 | | 2.00 | | 85 | Slow S-SWF |
| CAPRI G | 30 | 0711 | 0755 | | S19 | E09 | 5342 | 44 | 2 | | | | 6.00 | | | |
| ABASTUMANI | 30 | 0716 E | 0754 D | 0726 U | S18 | E06 | 5342 | 38 D | 1 | 1 | | | 2.40 | | | |
| KRASNYA | 30 | 0834 | 0851 D | 0835 | N11 | W70 | 5336 | 17 D | 1 | 2 | 0835 | | 1.60 | | 70 | |
| PIRCULI | 30 | 0838 E | 0900 | 0845 | N10 | W69 | 5336 | 22 D | 1 | 3 | 0845 | | 10.40 | | 43 | |
| KRASNYA | 30 | 0914 E | 0918 D | | S12 | E88 | 5353 | 4 D | 1 | 2 | 0915 | | 1.30 | | 65 | |
| CAPRI G | 30 | 1042 | 1057 | | S11 | E80 | 5353 | 15 | 1 | | | | 4.00 | | | |
| MCMATH | 30 | 1537 E | 1700 | 1547 | N13 | W36 | 5341 | 83 D | 2 | 2 | 1547 | | 6.00 | | | Slow S-SWF |
| CAPRI G | 30 | 1548 E | 1615 D | | N13 | W36 | 5341 | 27 D | 2 | | | | 7.00 | | | |
| CAPRI G | 30 | 1548 E | 1602 | | N16 | W76 | 5336 | 14 D | 1 | | | | 4.00 | | | Slow S-SWF |
| CAPRI G | 30 | 1559 | 1607 | | N23 | W43 | 5339 | 8 | 1 | | | | 3.00 | | | Slow S-SWF |
| MCMATH | 30 | 1720 | 1750 | 1726 | N00 | E69 | 5351 | | 1 | 1 | 1726 | | 2.00 | | | |
| MCMATH | 30 | 1740 | 1750 D | | S07 | W30 | 5340 | 10 D | 1 | 1 | 1745 | | 2.00 | | | |
| SYDNEY | 30 | 2345 | 0010 | 2351 | N11 | E10 | 5344 | 25 | 1 | 1 | 2351 | 3.00 | 3.00 | | | S-SWF |
| SYDNEY | 30 | 2351 | 0020 | 0005 | S11 | E70 | 5353 | 29 | 2 | 1 | 0005 | 2.00 | 8.00 | | | S-SWF |
| SYDNEY | 31 | 0218 | 0249 | 0233 | N14 | E35 | 5348 | 31 | 1 | 1 | 0233 | 2.00 | 3.00 | | | |
| TASHKENT | 31 | 0317 | 0332 | 0320 | N18 | E39 | 5348 | 15 | 1 | 1 | 0317 | | 2.00 | 3.40 | 85 | |
| TASHKENT | 31 | 0328 | 0532 | 0356 | N13 | E28 | 5344 | 124 | 1 | 1 | 0344 | | 6.00 | 2.30 | 55 | |
| SYDNEY | 31 | 0408 | 0502 | | N14 | E28 | 5344 | 54 | 2 | 1 | 0430 | 4.00 | 5.00 | | | |
| ABASTUMANI | 31 | 0500 E | 0711 D | 0524 U | N10 | E26 | 5344 | 131 D | 1& | 3 | 0515 | | 2.50 | 2.00 | 80 | |
| ONDREJOV | 31 | 0605 | 0631 | 0610 | N09 | E26 | 5344 | 26 | 1 | 3 | 0610 | | | 2.20 | | |
| ABASTUMANI | 31 | 0723 | 0833 D | 0731 U | S13 | E69 | 5353 | 70 D | 2 | 3 | 0730 | | 7.00 | 2.60 | 113 | |
| ABASTUMANI | 31 | 0725 E | 0758 D | 0728 | S20 | E60 | 5353 | 33 D | 2 | 3 | 0730 | | 7.90 | 2.60 | 139 | |
| CAPRI G | 31 | 0726 | 0801 | | S20 | E61 | 5353 | 35 | 1 | | | | 4.00 | | | |
| GOOD HOPE | 31 | 0727 | 0810 | 0734 | S13 | E71 | 5353 | 43 | 1 | | 0734 | 1.30 | | | | |
| GOOD HOPE | 31 | 0728 | 0755 | 0730 | S21 | E62 | 5353 | 27 | 1& | | 0730 | 1.60 | 4.10 | | | Slow S-SWF |
| PIRCULI | 31 | 0730 E | 0755 | 0740 | S17 | E60 | 5353 | 25 D | 1& | 3 | 0740 | | 10.17 | | 56 | |

# SOLAR FLARES

## AUGUST 1959

| OBSERVATORY | DATE AUG 1959 | OBSERVED UNIVERSAL TIME START | END | MAX. PHASE | LOCATION APPROX. LAT. | MER. DIST. | McMATH PLAGE REGION | DURATION — MINUTES | IMPORTANCE | OBS. COND. | MEASUREMENTS TIME — U T | MEAS. AREA Sq. Deg. | CORR. AREA Sq. Deg. | MAX. WIDTH Ha | MAX. INT. % | PROVISIONAL IONOSPHERIC EFFECT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PIRCULI | 31 | 0730 | 0805 | 0744 | S10 | E70 | 5353 | 35 | 1& | 3 | 0744 | | 21.07 | | 64 | |
| ATHENS | 31 | 0730 | 0825 | | S14 | E67 | 5353 | 55 | 2 | 3 | | 2.20 | 6.30 | | | |
| ATHENS | 31 | 0731 | 0756 | | S20 | E63 | 5353 | 25 | 1& | 3 | | 1.50 | 3.80 | | | |
| ONDREJOV | 31 | 0731 E | 0808 D | | S11 | E64 | 5353 | 37 D | 2 | 1 | 0733 | | | 2.87 | | |
| CAPRI G | 31 | 0740 E | 0814 | | S12 | E67 | 5353 | 34 D | 1 | | | | 4.00 | | | |
| GOOD HOPE | 31 | 0804 | 0818 | 0810 | N17 | W90 | 5336 | 14 | 1 | | 0810 | .50 | | | | |
| PIRCULI | 31 | 0835 | 0845 | 0840 | S17 | E60 | 5353 | 10 | 1 | 3 | 0840 | | 6.25 | | 56 | |
| PIRCULI | 31 | 0935 | 0954 | 0943 | N11 | E06 | 5344 | 19 | 1& | 3 | 0943 | | 5.50 | | 68 | |
| CAPRI G | 31 | 0950 E | 1003 | | N16 | E33 | 5348 | 13 D | 1 | | | | 4.00 | | | |
| CAPRI G | 31 | 0952 | 1001 | | S11 | E66 | 5353 | 9 | 1 | | | | 3.00 | | | |
| ONDREJOV | 31 | 1025 E | 1048 | | S12 | W37 | 5340 | 23 D | 1& | 3 | 1028 | | | 3.01 | | |
| GOOD HOPE | 31 | 1025 | 1050 | 1029 | S12 | W37 | 5340 | 25 | 1 | | 1029 | 1.90 | 2.50 | | | |
| CAPRI G | 31 | 1030 E | 1040 D | | S11 | W36 | 5340 | 10 D | 1& | | | | 4.00 | | | |
| GOOD HOPE | 31 | 1201 | 1209 | 1202 | N27 | W56 | 5339 | 8 | 1 | | 1202 | 1.40 | 2.60 | | | |
| GOOD HOPE | 31 | 1233 | 1306 | 1241 | N27 | W47 | 5339 | 33 | 1 | | 1241 | 1.50 | 2.30 | | | |
| CAPRI G | 31 | 1242 E | 1250 | | N26 | W47 | 5339 | 8 D | 1& | | | | 4.00 | | | |
| GOOD HOPE | 31 | 1303 | 1328 D | 1315 | N10 | E03 | 5344 | 25 D | 1 | | 1315 | 2.40 | 2.40 | | | |
| CAPRI G | 31 | 1311 | 1344 | | N09 | E04 | 5344 | 33 | 1& | | | | 4.00 | | | |
| CAPRI G | 31 | 1500 E | 1524 | | N11 | E20 | 5344 | 24 D | 1& | | | | 5.00 | | | |
| CAPRI G | 31 | 1510 | 1549 | | N09 | E01 | 5344 | 39 | 1 | | | | 4.00 | | | |
| UCCLE | 31 | 1534 E | 1541 D | | N11 | E03 | 5344 | 7 D | 1 | 3 | 1536 | 2.00 | | | | |
| CAPRI G | 31 | 1547 | 1608 | | S11 | E61 | 5353 | 21 | 1 | | | | 4.00 | | | |
| UCCLE | 31 | 1553 E | 1554 D | | S12 | E65 | 5353 | 1 D | 1& | 3 | 1554 | 3.00 | 6.00 | | | Slow S-SWF |
| MCMATH | 31 | 1559 E | 1616 D | | S14 | E65 | 5353 | 17 D | 1 | 1 | 1559 | | 2.00 | | | |
| MCMATH | 31 | 1619 E | 1639 D | | N15 | E37 | 5348 | 20 D | 1 | 1 | 1625 | | 2.00 | | | |



Errata:

The longitude reported for a flare observed by Lockheed August 22 at 1514 UT should be East 83 instead of East 03. The region number 5340 instead of 5335.

These flare reports are addenda to the August 1959 flares published in CRPL-F 181 Part B, September 1959.

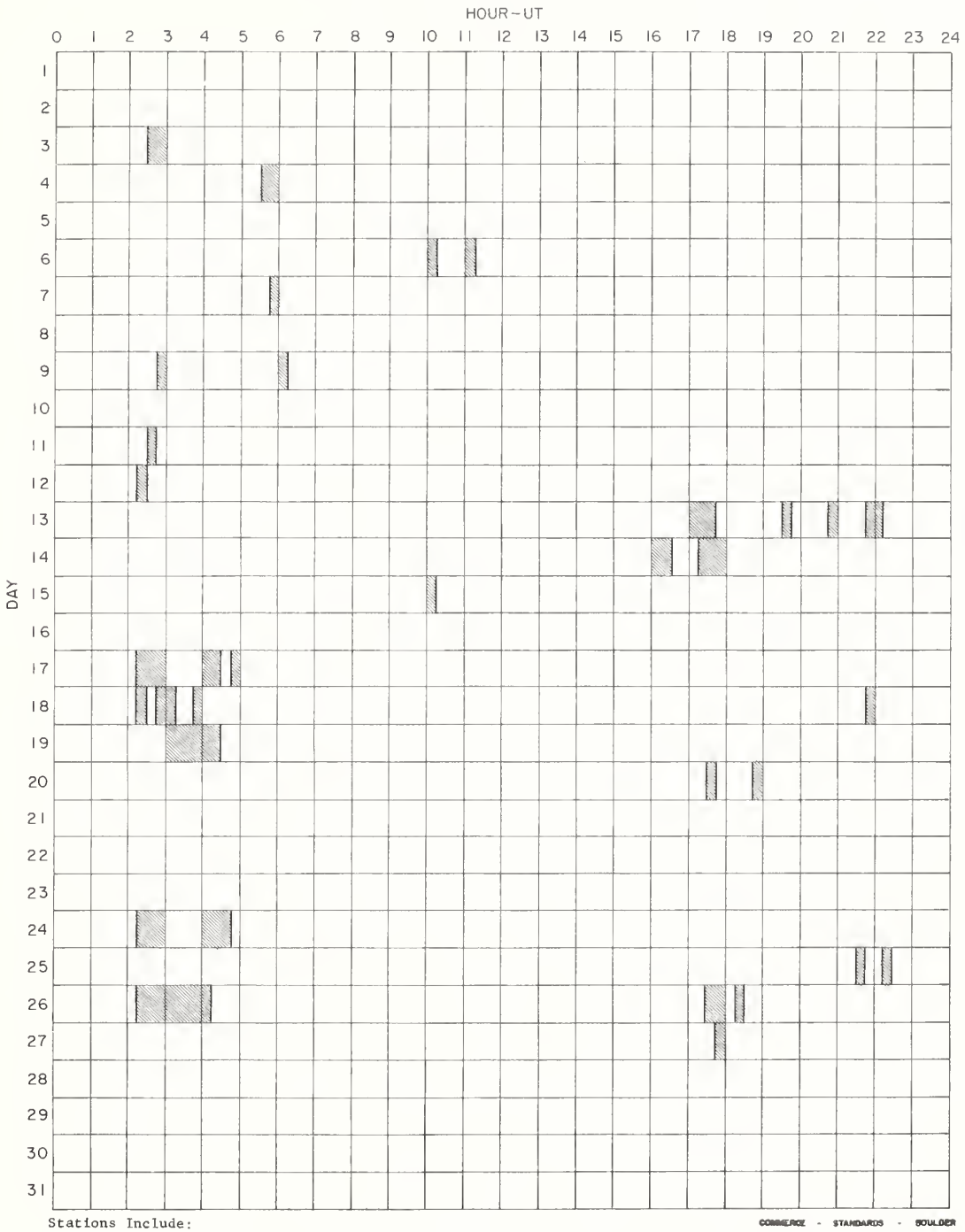
| | |
|---|---|
| CAPRI G | ANACAPRI - GERMAN |
| CAPRI S | ANACAPRI - SWEDISH |
| GOOD HOPE | ROYAL OBSERVATORY, CAPE OF GOOD HOPE |
| KIEV* | KIEV UNIVERSITY |
| KODAIKNAL | KODAIKANAL |
| KRASNYA | KRASNAYA PAKHRA |
| LOCKHEED | LOS ANGELES |
| MOSCOW-G | MOSCOW - GAISH |
| R O EDIN | ROYAL OBSERVATORY, EDINBURGH |
| R O HERST | GREENWICH ROYAL OBSERVATORY, HERSTMONCEUX |
| SAC PEAK | SACRAMENTO PEAK |
| SCHAUINS | SCHAUINSLAND |
| USNRL | UNITED STATES NAVAL RESEARCH LABORATORY |

SAC PEAK: ALL VALUES IN MAX. INT. COLUMN ARE ARBITRARY UNITS (0-40), NOT PERCENT OF CONTINUOUS SPECTRUM.

E - LESS THAN & - PLUS
D - GREATER THAN - - MINUS
U - APPROXIMATE □ - NOT REPORTED

# INTERVALS OF NO FLARE PATROL OBSERVATIONS

## AUGUST 1959




Stations Include:

Abastumani
Alma Ata
Anacapri (Swedish)
Arcetri
Arosa
Athens
Cape Town
Climax
Dunsink
Hawaii
Huancayo
Kharkov
Kiev GAO
Kodaikanal
Krasnaya Pakhra
Locarno
Lockheed
McMath
Meudon
Mitaka
Moscow University
Nederhorst
Nizamiah
Ondrejov
Pirculi
Royal Greenwich Observatory
Herstmonceux
Sacramento Peak
Simeiz
Sydney
Tashkent
Uccle
Utrecht
Voroshilov
Zurich

# IONOSPHERIC EFFECTS OF SOLAR FLARES

(Sudden Cosmic Noise Absorption
Sudden Enhancements Of Atmospherics
Solar Noise Bursts At 18 Mc.)

MAY 1959

| May 1959 | CLASS SCNA | CLASS SEA | CLASS Burst | WIDE SPREAD INDEX | TIME (UNIVERSAL TIME) BEGIN | TIME (UNIVERSAL TIME) MAX. | TIME (UNIVERSAL TIME) END | PERCENT ABSORPTION SCNA | OBSERVATION STATIONS |
|---|---|---|---|---|---|---|---|---|---|
| 1 | | 1 | | 4 | 2129 | 2135 | 2220 | | A1, A5, A6 |
| 2 | | 1 | | 5 | 1612 | 1618 | 1655 | | A3, ED, NE |
| 2 | | | 1+ | 5 | 2106 | | 2109 | | HA, PL, ST |
| 2 | 2 | | | 3 | 2108 | | 2119 | | PL, ST |
| 3 | 1+ | | | 1 | 0325 | 0329 | 0353 | 29 | HA |
| 3 | | | 2 | 3 | 1508 | 1510 | 1514 | | MC, RE |
| 3 | | | 2 | 5 | 2142 | 2148 | 2149 | | HA, MC, RE |
| 3 | 1+ | | | 1 | 2249 | 2255 | 2316 | 26 | HA |
| 3 | | 1+ | | 1 | 2251 | 2306 | 2340 | | A3, HA |
| 4 | | 1 | | 1 | 0401 | | 0426 | | HO |
| 4 | | 1 | | 1 | 0458 | | 0517 | | HO |
| 4 | 1- | | | 1 | 2053 | 2100 | 2146 | | HA |
| 4 | | 1- | | 5 | 2056 | 2107 | 2150 | | A1, A3, HA |
| 4 | | | 1- | 5 | 2123 | 2124 | 2124 | | HA, MC |
| 4 | 1 | | | 1 | 2334 | 2339 | 0015 | 21 | HA |
| 4 | | 2 | | 5 | 2335 | 2345 | 0041 | | A2, HA |
| 5 | | 2+ | | 5 | 0624 | 0629 | 0700 | | ED, HO, NE |
| 5 | | ▢ | | 1 | 0905 | 0907 | 0945 | | ED |
| 5 | | ▢ | | 1 | 1322 | 1328 | 1420 | | ED |
| 5 | | | 1 | 5 | 1610 | | 1614 | | BO, MC, PL, ST |
| 5 | 1- | | | 4 | 1614 | 1616 | 1627 | 9 | BO, MC, PL, ST |
| 5 | | 1 | | 5 | 1614 | 1626 | 1640 | | A3, BO, ED, MC, NE |
| 5 | | | 2 | 5 | 1732 | | 1735 | | BO, MC, SP |
| 5 | | | 1+ | 5 | 1735 | | 1746 | | BO, MC, PL, SP, ST |
| 5 | 1+ | | | 5 | 1740 | 1743 | 1815 | 30 | BO, MC, PL, SP, ST |
| 5 | | 1 | | 5 | 1742 | 1801 | 1827 | | A2, BO, ED, MC, NE, PA |
| 5 | | | 1+ | 5 | 1910 | | 1914 | | BO, MC, PL, RE, SP, ST |
| 5 | | | 1 | 5 | 1914 | | 1918 | | BO, HA, MC, PL, SP, ST |
| 5 | | | 1 | 5 | 1919 | | 1923 | | BO, HA, PL, RE, SP |
| 5 | 1+ | | | 5 | 1916 | 1922 | 1945 | | BO, HA, MC, PL, SP, ST |
| 5 | | 1+ | | 5 | 1921 | 1927 | | | A2, A7, BO, MC, PA |
| 5 | | | 1 | 5 | 2016 | 2018 | 2020 | | BO, HA, MC, ME |
| 5 | 1+ | | | 1 | 2019 | | 2035 | | ME |
| 5 | | 1 | | 4 | 2020 | 2022 | 2030 | | A2, A7 |
| 5 | | | 2 | 5 | 2106 | | 2111 | | BO, HA, MC, PL, SP, ST |
| 5 | | 1 | | 5 | 2106 | 2120 | 2149 | | A1, A2, BO, HA |
| 5 | 2 | | | 5 | 2111 | 2113 | 2131 | 33 | HA, MC, PL, SP, ST |
| 5 | | | 1 | 5 | 2205 | | 2207 | | BO, HA, MC |
| 5 | | | 1 | 5 | 2209 | | 2213 | | BO, HA, MC, ME |
| 5 | | | 1 | 5 | 2228 | | 2232 | | BO, HA, MC |
| 6 | 1- | | | 1 | 0011 | 0016 | 0035 | 6 | BO |
| 6 | | 1- | | 1 | 0011 | 0027 | 0052 | | BO |
| 6 | 2 | | | 1 | 0229 | 0237 | 0313 | 29 | HA |
| 6 | | 1 | | 1 | 0444 | | 0502 | | HO |
| 6 | | 1 | | 5 | 0731 | | 0749 | | HO, NE |
| 6 | | 1 | | 3 | 0910 | 0913 | 0945 | | ED, NE |
| 6 | | 1 | | 5 | 1012 | | 1051 | | A3, NE |
| 6 | | 1+ | | 5 | 1331 | 1336 | 1415U | | A1, A5, NE |
| 6 | 2 | | | 4 | 1432 | 1455 | 1530 | 39 | BO, RE |
| 6 | | 1- | | 4 | 1435 | 1455 | 1545 | | A3, A5, BO |
| 6 | | | 2 | 4 | 1502 | | 1507 | | BO, RE |
| 6 | | | 1 | 4 | 1715 | | 1717 | | BO, MC |
| 6 | | | 1 | 4 | 1718 | | 1720 | | BO, MC |
| 6 | | 1 | | 5 | 1719 | 1726 | | | A5, A7, BO, JU, NE |
| 6 | 1 | | | 5 | 1720 | 1721 | 1730 | 12 | BO, MC, RE |
| 6 | 1- | | | 1 | 1847 | 1851 | 1905 | 8 | BO |
| 6 | | 1 | | 3 | 1848 | 1856 | 1910 | | A5, A7, BO |
| 6 | | | 1 | 5 | 1918 | | 1924 | | BO, HA |
| 6 | | | 1 | 5 | 2011 | | 2026 | | BO, HA |
| 6 | | | 1 | 5 | 2153 | | 2156 | | BO, HA |

COMMERCE - STANDARDS - BOULDER

# IONOSPHERIC EFFECTS OF SOLAR FLARES

## ( Sudden Cosmic Noise Absorption / Sudden Enhancements Of Atmospherics / Solar Noise Bursts At 18 Mc. )

MAY 1959

| MAY 1959 | CLASS SCNA | CLASS SEA | CLASS Burst | WIDESPREAD INDEX | TIME (UNIVERSAL TIME) BEGIN | TIME (UNIVERSAL TIME) MAX. | TIME (UNIVERSAL TIME) END | PERCENT ABSORPTION SCNA | OBSERVATION STATIONS |
|---|---|---|---|---|---|---|---|---|---|
| 7 | | | 2 | 5 | 1638 | 1641 | 1643 | | BO, MC, RE |
| 7 | 1 | | | 5 | 2024 | 2030 | 2051 | 15 | BO, HA |
| 7 | | 2 | | 5 | 2026 | 2041 | 2111 | | A3, A5, A6, HA |
| 8 | | 1 | | 5 | 1420 | 1438 | 1501 | | A9, BO, ED, KU, PA |
| 8 | 1- | | | 4 | 1421 | 1433 | 1455 | 9 | BO, RE |
| 8 | | | 1 | 5 | 1959 | | 2003 | | BO, HA, MC |
| 8 | 2+ | | | 5 | 2255 | 2257 | 2320 | 65 | BO, MC, SP |
| 8 | | 2 | | 5 | 2256 | 2300 | 2330 | | A1,A3,A6,A9,BO,DE,HA,HO,MC,TO |
| 9 | | | 1 | 5 | 1640 | | 1645 | | BO, RE |
| 9 | 2 | | | 5 | 1710 | 1740 | 1820 | 30 | BO, RE |
| 9 | | 2 | | 5 | 1715 | 1756 | 1830 | | A1, A2, A5, A7, BO, DE |
| 9 | | | 2 | 5 | 2050 | | 2055 | | BO, HA, RE |
| 9 | | | 1+ | 5 | 2200 | | 2205 | | BO, HA |
| 9 | | | 1+ | 5 | 2216 | | 2220 | | BO, HA |
| 9 | | | 1+ | 5 | 2252 | | 2256 | | BO, HA |
| 10 | | | 2 | 5 | 1433 | 1436 | 1437 | | BO, MC, RE |
| 10 | | | 2 | 5 | 1917 | | 1921 | | BO, HA |
| 10 | | | 1+ | 3 | 1922 | 1924 | 1925 | | MC, RE |
| 10 | 1+ | | | 1 | 2025 | 2035 | 2100 | 25 | BO |
| 10 | | | 2 | 5 | 2038 | | 2043 | | BO, HA, MC, RE |
| 10 | 3 | | | 5 | 2103 | 2123 | 0000 | 77 | BO, HA, MC, RE, SP |
| 10 | | 3 | | 5 | 2115 | 2135 | 2330 | | A3, BO, HA, TO |
| 10 | | | 1+ | 4 | 2115 | | 2117 | | BO, MC |
| 10 | | | 3 | 5 | 2130 | | 2142 | | BO, HA, MC, RE |
| 10 | | | 2 | 5 | 2230 | 2310 | 2335 | | BO, HA, RE |
| 11 | 3 | | | 5 | 2015 | 2029 | 2159 | 75 | BO, HA, MC, RE, SP |
| 11 | | 2 | | 5 | 2019 | 2030 | 2145 | | A3, A6, BO, HA, SP, TO |
| 11 | | | 2 | 5 | 2036 | 2039 | 2040 | | BO, MC, RE |
| 11 | | | 2 | 4 | 2055 | 2058 | 2059 | | BO, MC |
| 12 | | 2 | | 5 | 0705 | | 0724 | | NE, TO |
| 12 | | 1 | | 1 | 1008 | | 1039 | | JU |
| 12 | | 1 | | 1 | 1400 | | 1506 | | JU |
| 12 | | 1 | | 5 | 2150 | 2200 | | | A3, A6, A9, BO, SP |
| 12 | 1 | | | 3 | 2152 | 2158 | 2216 | 25 | BO, SP |
| 13 | | 1 | | 3 | 0514 | | 0543 | | JU, NE |
| 13 | | 1 | | 5 | 0957 | 1002 | 1021 | | A3, A5, DU |
| 13 | | | 1+ | 5 | 2142 | 2145 | 2147 | | BO, HA, MC, RE |
| 13 | 1+ | | | 5 | 2340 | 2343 | 2353 | | BO, HA |
| 13 | | 1 | | 5 | 2341 | 2352 | 0035 | | A6, BO, HA |
| 15 | | 1- | | 5 | 0140 | 0150 | 0230U | | A3, A7 |
| 16 | 1- | | | 5 | 1655 | 1658 | 1709 | 10 | BO, MC, RE |
| 16 | | 1 | | 3 | 1655 | 1703 | 1722 | | A1, MC |
| 16 | 1 | | | 4 | 1753 | 1800 | 1810 | 15 | BO, RE |
| 16 | | 1 | | 1 | 1754 | 1807 | 1900U | | A1 |
| 16 | | 1+ | | 5 | 1918 | 1932 | | | A1, A6, BO |
| 16 | 1 | | | 4 | 1918 | 1926 | 2010 | | BO, RE |
| 17 | | 1- | | 5 | 0109 | | 0126 | | HO, TO |
| 17 | 2 | | | 1 | 0149 | 0154 | 0211 | 24 | HA |
| 17 | | 1 | | 5 | 0154 | 0203 | 0223 | | HA, HO, TO |
| 17 | | 2- | | 5 | 0523 | | 0611 | | HO, NE, TO |
| 17 | | 2 | | 5 | 0706 | 0711 | 0725 | | ED, HO, NE, TO |
| 17 | 1- | | | 4 | 1520 | 1528 | 1552 | 9 | BO, RE |
| 17 | | 1 | | 5 | 1522 | 1532 | 1550 | | A6, BO, PA |
| 17 | 1 | | | 5 | 2230 | 2234 | 2259 | 23 | BO, HA |
| 17 | | 1+ | | 5 | 2231 | 2243 | 2258 | | A1, A5, A7, A9, BO, HA |
| 18 | | 2+ | | 5 | 0406 | | 0450 | | HO, TO |
| 19 | | 1+ | | 5 | 1339 | | 1411 | | A1, A2, A3, A5, PA |
| 19 | 1 | | | 3 | 1340 | 1344 | 1355 | 25 | MC, RE |
| 24 | 1+ | | | 3 | 2223 | 2244 | 2335 | 50 | MC, RE |
| 24 | | 1 | | 3 | 2233 | 2247 | 2336 | | A6, MC |
| 26 | 2 | | | 1 | 2349 | 2356 | 0035 | 41 | HA |
| 26 | | 1 | | 5 | 2356 | 0010 | 0104 | | A1, A3, A7, A9, HA, HO, NO |

COMMERCE - STANDARDS - BOULDER

# IONOSPHERIC EFFECTS OF SOLAR FLARES

## ( Sudden Cosmic Noise Absorption / Sudden Enhancements Of Atmospherics / Solar Noise Bursts At 18 Mc. )

### MAY 1959

| MAY 1959 | CLASS SCNA | CLASS SEA | CLASS Burst | WIDESPREAD INDEX | TIME (UNIVERSAL TIME) BEGIN | TIME (UNIVERSAL TIME) MAX. | TIME (UNIVERSAL TIME) END | PERCENT ABSORPTION SCNA | OBSERVATION STATIONS |
|---|---|---|---|---|---|---|---|---|---|
| 27 | | | 1 | 4 | 1601 | | 1603 | | BO, MC |
| 27 | 1- | | | 1 | 1706 | 1717 | 1733 | | BO |
| 27 | | 1- | | 1 | 1708 | 1720 | 1740 | | BO |
| 27 | 1 | | | 5 | 1750 | 1754 | 1814 | | BO, MC, RE |
| 27 | | 1- | | 1 | 1750 | 1800 | 1825 | | BO |
| 27 | | | 1 | 4 | 1853 | 1854 | 1855 | | BO, MC |
| 30 | | | 1 | 4 | 1312 | 1313 | 1314 | | BO, MC |
| 30 | 1- | | | 1 | 1943 | 1951 | 2015 | | BO |
| 31 | | 1 | | 3 | 2120 | 2132 | 2155 | | A1, A2, A5 |

PL = Pullman, Wash.
ST = Stanford, Calif.
ME = Meanook, Canada
NO = Norikura, Japan

### JUNE 1959

| June 1959 | CLASS SCNA | CLASS SEA | CLASS Burst | WIDE SPREAD INDEX | TIME (UNIVERSAL TIME) BEGIN | TIME (UNIVERSAL TIME) MAX. | TIME (UNIVERSAL TIME) END | PERCENT ABSORPTION SCNA | OBSERVATION STATIONS |
|---|---|---|---|---|---|---|---|---|---|
| 1 | | 1 | | 3 | 1622 | 1635 | | | A1, A5, A6 |
| 1 | | 1+ | | 3 | 1645 | 1703 | | | A1, A5, A6 |
| 1 | | 2 | | 3 | 1735 | 1747 | | | A1, A5 |
| 2 | | 1 | | 5 | 1312 | | 1334 | | A1, JU, PA |
| 2 | 1+ | | | 5 | 1818 | 1826 | 1855 | 16 | BO, HA, MC, PL, ST |
| 2 | | 1 | | 5 | 1823 | 1841 | 1906 | | DU, HA, NE |
| 2 | | | 1+ | 5 | 1823 | 1824 | 1825 | | BO, MC, PL, ST |
| 2 | | | 1 | 4 | 2000 | | 2002 | | BO, MC |
| 2 | 1 | | | 5 | 2003 | 2008 | 2103 | 13 | BO, HA, ME |
| 2 | | 1 | | 1 | 2006 | 2010 | 2022 | | HA |
| 4 | | 1 | | 3 | 1815 | 1823 | 1925U | | A1, A5 |
| 6 | | 1- | | 1 | 1456 | 1514 | 1525 | | BO |
| 6 | 1- | | | 1 | 1457 | 1505 | | 7 | BO |
| 7 | | 2 | | 1 | 0810 | | 0923 | | TO |
| 7 | 1 | | | 4 | 1351 | 1359 | 1417 | 12 | BO, MC |
| 7 | | 1- | | 5 | 1351 | 1406 | 1430 | | BO, DU, MC, NE |
| 7 | | 1 | | 3 | 1455 | 1507 | 1550 | | A1, A5 |
| 8 | | 1- | | 4 | 1830 | 1842 | 1920U | | A1, A5, A6 |
| 9 | 2+ | | | 5 | 1638 | 1655 | | 75 | BO, HA, MC, SP |
| 9 | | 2+ | | 5 | 1639 | 1658 | 1725 | | A1, A2, A5, BO, DU, HA, MC, NE |
| 9 | | | 2 | 3 | 1738 | 1740 | 1744 | | BO, SP |
| 9 | | | 2+ | 3 | 1745 | 1753 | 1830 | | BO, SP |
| 9 | | | 1+ | 5 | 2129 | | 2135 | | BO, HA |
| 9 | | 1 | | 1 | 2132 | 2143 | 2205 | | BO |
| 10 | | 2 | | 1 | 1145 | | 1215 | | PA |
| 10 | | | 1 | 3 | 1752 | | 1753 | | BO, SP |
| 10 | | 2 | | 5 | 1753 | 1810 | 1845 | | BO, DU, MC, NE, PA |
| 10 | 1+ | | | 5 | 1753 | 1754 | 1813 | 28 | BO, HA, MC, SP |
| 10 | | | 3 | 5 | 1927 | 1930 | 1934 | | BO, HA, MC |
| 10 | | | 2 | 5 | 2030 | 2032 | 2035 | | BO, HA, MC |
| 10 | | | 2 | 5 | 2053 | 2059 | 2101 | | BO, HA, MC |
| 10 | | | 1+ | 4 | 2145 | 2150 | 2152 | | BO, MC |
| 10 | | | 2+ | 5 | 2247 | | 2300 | | BO, HA |
| 11 | | 1 | | 5 | 0609 | 0625 | 0637 | | DU, TO |
| 11 | | | 2 | 4 | 1803 | | 1905 | | BO, MC |
| 11 | 1+ | | | 4 | 1804 | 1853 | 2000 | 32 | BO, MC |
| 11 | | 1+ | | 4 | 1805 | 1848 | 2000 | | A2, A3, BO |
| 11 | | | 1- | 5 | 1832 | | 1834 | | BO, HA |
| 11 | | | 1 | 5 | 1942 | 1943 | 1944 | | BO, HA, MC |

# IONOSPHERIC EFFECTS OF SOLAR FLARES

## ( Sudden Cosmic Noise Absorption / Sudden Enhancements Of Atmospherics / Solar Noise Bursts At 18 Mc. )

JUNE 1959

| JUNE 1959 | CLASS SCNA | CLASS SEA | CLASS Burst | WIDESPREAD INDEX | TIME (UNIVERSAL TIME) BEGIN | TIME MAX. | TIME END | PERCENT ABSORPTION SCNA | OBSERVATION STATIONS |
|---|---|---|---|---|---|---|---|---|---|
| 11 | | | 1- | 5 | 2037 | 2038 | 2038 | | HA, MC |
| 11 | | | 2 | 5 | 2053 | | 2110 | | BO, HA, MC |
| 11 | 1 | | | 5 | 2100 | 2111 | 2145 | 23 | BO, HA, MC |
| 11 | | 1 | | 5 | 2102 | 2109 | 2156 | | A2, A3, BO, HA |
| 11 | | 1 | | 4 | 2324 | 2339 | 2400 | | A2, A3, BO |
| 12 | | □ | | 1 | 0905 | 0911 | 0935 | | DU |
| 13 | | 2 | | 1 | 0400 | | 0435 | | TO |
| 13 | | 2 | | 3 | 1210 | 1225 | 1330 | | A1, A3, A5 |
| 13 | | | 1 | 5 | 2054 | | 2057 | | HA, MC |
| 14 | | 1 | | 4 | 2005 | 2015 | | | A1, A5, A6 |
| 14 | | 1+ | | 4 | 2030 | 2055 | 2130 | | A1, A5, A6 |
| 15 | | 1+ | | 5 | 1051 | | 1159 | | DU, NE, PA |
| 15 | | 1- | | 1 | 1622 | 1630 | | | A5 |
| 15 | 1 | | | 4 | 1623 | 1626 | 1640 | 14 | BO, MC |
| 16 | | 2 | | 5 | 0622 | 0636 | 0650 | | DU, HO, NE, TO |
| 16 | | 1+ | | 1 | 1012 | | 1030 | | PU |
| 17 | 1 | | | 1 | 1430 | 1439 | 1515 | 15 | MC |
| 17 | | 1+ | | 5 | 1431 | 1446 | 1513 | | DU, MC, NE |
| 18 | 1+ | | | 1 | 1139 | 1144 | 1209 | 25 | MC |
| 18 | | 1 | | 5 | 1141 | 1150 | 1203 | | A5, DU, MC, PA |
| 18 | | 3 | | 3 | 1515 | 1552 | 1700 | | A3, A5 |
| 19 | 1 | | | 4 | 1635 | 1644 | 1706 | 10 | BO, MC |
| 19 | | 1 | | 1 | 1641 | | 1710 | | NE |
| 19 | | | 1 | 5 | 2007 | | 2009 | | HA, MC |
| 19 | | | 1- | 5 | 2016 | | 2018 | | HA, MC |
| 20 | 1- | | | 1 | 2325 | 2340 | 0010 | 6 | BO |
| 20 | | 1+ | | 5 | 2332 | 2349 | 0018 | | A6, TO |
| 21 | | 1 | | 3 | 0953 | 1010 | 1030 | | A1, A3 |
| 21 | | 1 | | 3 | 1210 | 1217 | 1240 | | A1, A3 |
| 21 | | 2 | | 4 | 1422 | 1436 | 1530U | | A1, A3, A5 |
| 21 | | | 1+ | 3 | 1605 | 1611 | 1612 | | MC, RE |
| 21 | | | 2 | 5 | 2031 | | 2035 | | HA, MC |
| 21 | 1- | | | 1 | 2225 | 2230 | 2255 | 8 | BO |
| 21 | | 1- | | 1 | 2228 | 2235 | 2315 | | A3 |
| 22 | | 1 | | 3 | 1027 | 1038 | 1100 | | DU, NE |
| 23 | | 2 | | 5 | 1108 | | 1149 | | DU, PA |
| 23 | 1- | | | 4 | 1618 | 1621 | 1635 | 4 | BO, MC |
| 23 | | 1- | | 4 | 1618 | 1630 | 1650 | | A2, BO, MC |
| 23 | 1- | | | 4 | 1650 | 1654 | 1710 | 6 | BO, MC |
| 23 | | 1- | | 1 | 1651 | 1657 | 1740 | | BO |
| 24 | | | 1 | 5 | 1528 | 1530 | 1532 | | MC, RE, SP |
| 25 | | 1+ | | 3 | 1128 | 1137 | | | A1, A5 |
| 27 | | | 1- | 3 | 1205 | 1207 | 1208 | | MC, RE |
| 27 | | | 1+ | 5 | 1436 | 1437 | 1441 | | MC, RE, SP |
| 27 | | | 1 | 5 | 1453 | 1455 | 1457 | | MC, RE, SP |
| 27 | | | 1+ | 5 | 1553 | 1556 | 1601 | | MC, RE, SP |
| 27 | 1 | | | 4 | 1645 | 1653 | 1710 | 30 | BO, RE |
| 27 | | | 1 | 5 | 2143 | | 2145 | | BO, HA |
| 27 | | 2 | | 5 | 2330 | 2335 | 2355 | | A2, A7 |
| 28 | | | 1+ | 5 | 1546 | 1548 | 1550 | | PL, RE, SP |
| 28 | | | 1 | 5 | 1637 | 1640 | 1641 | | BO, MC, RE SP |
| 28 | 1- | | | 3 | 1659 | 1702 | 1720 | 3 | BO, ME |
| 28 | | 1- | | 4 | 1701 | 1708 | 1718 | | A2, BO |
| 28 | | | 1+ | 5 | 2243 | 2244 | 2246 | | BO, HA, MC, SP |
| 28 | | 1 | | 1 | 2320 | | 0012 | | TO |
| 28 | 1- | | | 1 | 2328 | 2331 | 2348 | 2 | BO |
| 29 | | | 1 | 5 | 1803 | 1805 | 1806 | | BO, MC, SP |
| 29 | | | 1 | 3 | 2008 | | 2011 | | BO, SP |
| 29 | | 2 | | 5 | 2110 | 2125 | 2155 | | A2, A3, A7 |
| 29 | 1 | | | 1 | 2125 | 2140 | 2215 | 10 | BO |
| 30 | | 2- | | 3 | 1630 | 1640 | 1700 | | A1, A2, A3, A5 |

# IONOSPHERIC EFFECTS OF SOLAR FLARES

## ( Sudden Cosmic Noise Absorption / Sudden Enhancements Of Atmospherics / Solar Noise Bursts At 18 Mc. )

JULY 1959

| July 1959 | CLASS SCNA | CLASS SEA | CLASS Burst | WIDE SPREAD INDEX | TIME (UNIVERSAL TIME) BEGIN | TIME (UNIVERSAL TIME) MAX. | TIME (UNIVERSAL TIME) END | PERCENT ABSORPTION SCNA | OBSERVATION STATION |
|---|---|---|---|---|---|---|---|---|---|
| 1 | | 1+ | | 3 | 1137 | 1145 | 1155 | | A1, A5 |
| 1 | | | 1 | 3 | 1745 | 1746 | 1747 | | BO, SP |
| 1 | | | 1+ | 5 | 1748 | 1754 | 1800 | | BO, MC, RE, SP |
| 1 | | | 1+ | 5 | 1802 | 1807 | 1812 | | BO, MC, SP |
| 1 | | | 2 | 5 | 2013 | 2017 | 2018 | | BO, HA, RE, SP |
| 1 | | | 1 | 5 | 2148 | 2149 | 2150 | | HA, SP |
| 1 | | | 2 | 5 | 2240 | 2244 | 2247 | | HA, SP |
| 3 | | | 1 | 5 | 2145 | 2146 | 2148 | | HA, SP |
| 5 | | | 2 | 5 | 2331 | 2335 | 2337 | | BO, HA |
| 6 | | | 1 | 3 | 1444 | 1445 | 1446 | | BO, SP |
| 6 | | | 1 | 3 | 1452 | 1453 | 1454 | | BO, SP |
| 6 | | | 1 | 3 | 1847 | 1849 | 1850 | | BO, SP |
| 6 | | | 1 | 5 | 1930 | 1931 | 1932 | | BO, HA, SP |
| 6 | | | 1 | 5 | 2055 | 2056 | 2058 | | HA, SP |
| 7 | | | 1 | 5 | 1628 | 1630 | 1631 | | BO, MC, SP |
| 7 | | | 1 | 3 | 1643 | 1644 | 1645 | | BO, SP |
| 7 | | | 1 | 5 | 1654 | 1658 | 1701 | | BO, MC, SP |
| 7 | | | 1- | 5 | 1734 | 1735 | 1737 | | BO, MC, SP |
| 7 | | | 1 | 3 | 1810 | 1811 | 1812 | | BO, SP |
| 7 | | | 1 | 5 | 2210 | | 2222 | | HA, SP |
| 8 | | ▢ | | 1 | 0829 | 0830 | 0900 | | DU |
| 8 | | | 1 | 3 | 1409 | | 1410 | | BO, SP |
| 8 | | | 1 | 4 | 1443 | 1450 | 1451 | | MC, SP |
| 8 | | | 1 | 3 | 1744 | | 1746 | | BO, SP |
| 8 | | | 1 | 3 | 1811 | | 1814 | | BO, SP |
| 8 | | | 1 | 5 | 1832 | 1833 | 1835 | | BO, MC, SP |
| 8 | | 1+ | | 3 | 1849 | 1857 | | | A2, A3, BO |
| 8 | 1 | | | 5 | 1849 | 1852 | 1906 | 25 | BO, HA, MC, RE, SP |
| 8 | | | 1 | 3 | 2018 | 2019 | 2020 | | BO, SP |
| 8 | | | 1 | 5 | 2023 | 2025 | 2028 | | BO, HA, MC, RE, SP |
| 9 | | | 1 | 3 | 1820 | | 1822 | | BO, SP |
| 9 | | | 1 | 3 | 1829 | | 1832 | | BO, SP |
| 9 | 1 | | | 5 | 1947 | 1954 | 2025 | 20 | BO, HA, MC, RE, SP |
| 9 | | 2 | | 3 | 1947 | 1953 | 2115U | | A5, A6 |
| 9 | | | 1 | 5 | 2004 | | 2006 | | BO, HA, SP |
| 9 | | | 1 | 3 | 2007 | | 2008 | | BO, SP |
| 9 | | | 1 | 3 | 2012 | | 2014 | | BO, SP |
| 9 | | | 1 | 5 | 2035 | | 2035 | | BO, HA |
| 9 | | 2+ | | 1 | 2035 | | 2125 | | A2 |
| 9 | | | 2 | 5 | 2045 | 2049 | 2055 | | BO, HA, MC, RE, SP |
| 9 | | | 3 | 5 | 2110 | | 0215 | | BO, HA, MC, SP |
| 9 | | 1+ | | 5 | 2225 | 2245 | 2310 | | A1, A2, A3, A5, A6 |
| 10 | | 3 | | 5 | 0205 | | 0237 | | BO, HA, SP, TO |
| *10 | 3 | | | 5 | 0215U | | | | BO, HA, SP |
| 11 | | | 1 | 5 | 1927 | | 1930 | | BO, HA, SP |
| 11 | | | 1 | 5 | 2055 | | 2059 | | BO, HA, SP |
| 12 | | | 1 | 5 | 1759 | | 1808 | | BO, HA, SP |
| 12 | | | 1 | 3 | 1929 | | 1931 | | BO, SP |
| 12 | | | 1 | 3 | 1935 | | 1937 | | BO, SP |
| 12 | | | 1 | 3 | 1942 | | 1947 | | BO, SP |
| 12 | | 2 | | 4 | 2052 | 2108 | 2215U | | A2, A3, A5, A6 |
| 12 | | 2 | | 4 | 2218 | 2243 | 2335 | | A3, A6 |
| 13 | | 1 | | 3 | 1642 | 1646 | 1750 | | A2, A5 |
| 13 | | | 1 | 5 | 1734 | | 1737 | | BO, HA, SP |
| 13 | | 1+ | | 3 | 1935 | 1955U | 2120 | | A2, A3 |
| 13 | | | 2 | 5 | 1944 | 1947 | 2029 | | BO, HA, MC, SP |
| 14 | | 2 | | 1 | 0328 | | 0428 | | TO |
| 14 | | | 1+ | 5 | 1335 | | 1337 | | MC, RE, SP |
| 14 | | ▢ | | 1 | 1423 | 1432 | 1442 | | DU |
| 14 | | | 1+ | 5 | 1442 | 1449 | 1450 | | BO, MC, RE, SP |
| 14 | | | 1 | 3 | 1635 | | 1638 | | BO, SP |

* Continuing at sunset.

COMMERCE - STANDARDS - BOULDER

# IONOSPHERIC EFFECTS OF SOLAR FLARES

## ( Sudden Cosmic Noise Absorption / Sudden Enhancements Of Atmospherics / Solar Noise Bursts At 18 Mc. )

JULY 1959

| JULY 1959 | CLASS SCNA | CLASS SEA | CLASS Burst | WIDESPREAD INDEX | TIME (UNIVERSAL TIME) BEGIN | TIME (UNIVERSAL TIME) MAX. | TIME (UNIVERSAL TIME) END | PERCENT ABSORPTION SCNA | OBSERVATION STATIONS |
|---|---|---|---|---|---|---|---|---|---|
| 14 | | | 1 | 3 | 1705 | | 1740 | | BO, SP |
| 14 | | | 1 | 5 | 1748 | 1750 | 1754 | | BO, MC, RE, SP |
| 14 | | | 1 | 5 | 1831 | | 1834 | | BO, MC, SP |
| 14 | | | 1 | 3 | 1955 | | 1956 | | BO, SP |
| 14 | | | 2 | 5 | 2005 | 2100 | 2110 | | BO, HA, MC, RE, SP |
| 14 | | | 2 | 5 | 2222 | | 2229 | | BO, HA, MC, RE, SP |
| 14 | | 1 | | 5 | 2225 | 2233 | 2250U | | A5, A6, HA |
| 14 | 1 | | | 5 | 2229 | 2231 | 2244 | 15 | BO, HA, MC |
| 15 | | 2 | | 5 | 1301 | | 1331 | | NE, PA |
| 15 | | | 1 | 3 | 1745 | | 1810 | | BO, SP |
| 15 | 1 | | | 5 | 1924 | 1929 | 1940 | 25 | BO, HA, SP |
| 15 | | 1 | | 5 | 1924 | 1940 | 2015 | | A2, A5, A6, HA |
| 16 | 2 | | | 5 | 1613 | 1617 | 1631 | | BO, MC, RE, SP |
| 16 | | 1 | | 5 | 1614 | 1626 | | | DU, MC, NE |
| 16 | | | 1 | 3 | 1858 | | 1902 | | BO, SP |
| 16 | | | 1 | 5 | 2010 | | 2110 | | BO, HA, SP |
| 16 | | 3+ | | 5 | 2115 | 2140 | 2345 | | A1, A2, A3, A5, HA, HO, TO |
| 16 | 3+ | | | 5 | 2117 | | 0100U | | BO, HA, MC, RE, SP |
| 16 | | | 3 | 5 | 2128 | 2131 | 2132 | | BO, HA, MC, RE, SP |
| 16 | | | 2 | 5 | 2135 | 2139 | 2140 | | BO, HA, MC, RE, SP |
| 16 | | | 1+ | 5 | 2144 | 2151 | 2155 | | BO, HA, MC, RE, SP |
| 18 | | | 1 | 3 | 1631 | | 1635 | | BO, SP |
| 18 | | 1+ | | 1 | 1750 | 1800D | 1820 | | A5 |
| 18 | 1- | | | 1 | 1754 | 1800 | 1810 | 20 | RE |
| 18 | | | 1 | 3 | 1826 | | 1828 | | BO, SP |
| 18 | | | 1 | 5 | 1845 | | 1850 | | BO, HA, MC, RE |
| 18 | | | 1 | 5 | 1852 | | 1857 | | BO, HA, MC |
| 18 | | | 2 | 5 | 1900 | | 1904 | | BO, SP |
| 18 | | | 2 | 5 | 1906 | | 1910 | | BO, SP |
| 23 | | 2 | | 3 | 1303 | 1325 | 1400U | | A1, A5 |
| 24 | | | 1 | 5 | 1959 | | 2006 | | BO, HA, SP |
| 25 | | | 1 | 5 | 1915 | | 1917 | | BO, HA, MC, SP |
| 25 | 1 | | | 5 | 1917 | 1920 | 1930 | 10 | BO, HA, MC, RE, SP |
| 25 | | 1 | | 5 | 1920 | 1930 | | | HA, PA |
| 25 | | | 1 | 5 | 2026 | | 2027 | | BO, HA, MC, SP |
| 25 | | 1+ | | 1 | 2025 | 2035 | 2120 | | A2 |
| 25 | 1 | | | 5 | 2027 | 2030 | 2045 | 25 | BO, HA, MC, RE, SP |
| 25 | | | 1 | 5 | 2107 | | 2108 | | BO, HA |
| 25 | | | 1 | 5 | 2201 | | 2204 | | BO, HA |
| 25 | | 1 | | 1 | 2202 | 2222 | 2300 | | HA |
| 25 | 1 | | | 5 | 2204 | 2207 | 2220 | 15 | BO, HA, SP |
| 26 | | 2 | | 4 | 2025 | 2040 | 2115 | | A1, A3, A5 |
| 27 | | | 1+ | 3 | 1225 | 1228 | 1230 | | MC, RE |
| 27 | 1+ | | | 3 | 1230 | 1235 | 1243 | 40 | MC, RE |
| 27 | | 3 | | 1 | 1230 | | 1318 | | PA |
| 27 | | 2 | | 5 | 2106 | 2110 | | | BO, HA, MC, RE, SP |
| 27 | | 1+ | | 5 | 2110 | 2115 | 2200 | | A5, TO |
| 27 | 1 | | | 5 | 2115U | 2120U | | | BO, HA |
| 28 | | | 2 | 5 | 1854 | 1900 | 1905 | | BO, HA, MC, RE, SP |
| 29 | | 2 | | 5 | 1205 | | 1332 | | A6, PA |
| 29 | | | 1 | 5 | 1826 | 1829 | 1830 | | BO, MC, RE, SP |
| 29 | 1 | | | 5 | 2023 | 2035 | 2116U | 20 | BO, HA, SP |
| 29 | | | 2 | 5 | 2116 | 2120 | | | BO, HA, MC, RE, SP |
| 29 | | 1+ | | 1 | 2120 | 2130 | 2200U | | A1 |
| 29 | 2 | | | 5 | 2121 | 2122 | 2145 | 45 | BO, HA, MC, RE, SP |
| 30 | | 2 | | 1 | 0030 | | 0150 | | A2 |
| **30 | | | 2 | 5 | 1600U | | 0200U | | BO, HA, MC, SP |
| **31 | | | 1 | 5 | 1400U | | 0200U | | BO, HA, SP |
| 31 | | | 1 | 3 | 1550 | 1558 | 1606 | | MC, RE |

** Noise storm all day.

COMMERCE - STANDARDS - BOULDER

# IONOSPHERIC EFFECTS OF SOLAR FLARES

(SHORT-WAVE RADIO FADEOUTS)

OCTOBER 1959

| Oct. 1959 | Start UT | End UT | Type | Wide Spread Index | Importance | Observation Stations | Known Flare, UT CRPL-F 183 |
|---|---|---|---|---|---|---|---|
| 6 | 1420 | 1443 | S-SWF | 5 | 1 | BE, FM, HU, JU, MC, NE, PR, WS | 1416E |
| 6 | 1725 | 1740 | Slow S-SWF | 3 | 1- | MC, PR | 1716 |
| 6 | 2012 | 2033 | S-SWF | 5 | 1+ | AD, BE, FM, HU, LA, MC, PR, WS | 1954 |
| 7 | 0308 | 0322 | Slow S-SWF | 5 | 1- | AD, OK | * |
| 7 | 0502 | 0533 | S-SWF | 5 | 1+ | AD, KO, OK | * |
| 7 | 1327 | 1352 | S-SWF | 5 | 1 | FM, HU, NE, PR | 1331E |
| 7 | 1428 | 1445 | S-SWF | 5 | 1+ | BE, DA, FM, HU, JU, LA, MC, NE, PR, PU, WS | 1423 |
| 7 | 1500 | 1523 | S-SWF | 4 | 1- | MC, PR, WS | 1501E |
| 10 | 0338 | 0457 | S-SWF | 1 | 2+ | OK | 0442E |
| 10 | 0500 | 0602 | S-SWF | 1 | 1+ | OK | 0457E |
| 19 | 1350 | 1358 | S-SWF | 3 | 1- | MC, PR | 1317 |
| 20 | 2100 | 2115 | S-SWF | 3 | 1 | HU, PR | |
| 28 | 0322 | 0407 | S-SWF | 5 | 2+ | AD, CA, OK, TO | 0315E |
| 28 | 2304 | 2322 | S-SWF | 3 | 1 | HU, PR | |

* No known flare patrol.

COMMERCE - STANDARDS - BOULDER

CA = Canberra, Australia
DA = Darmstadt, G.F.R.
JU = Juhlesruh, G.D.R.
KO = Kodaikanal, India
LA = Los Angeles, Calif.
NE = Nederhorst den Berg, Netherlands
PU = Prague, Czechoslovakia
TO = Hiraiso Radio Wave Observatory, Japan

# SOLAR RADIO EMISSION

## OUTSTANDING OCCURRENCES

NOVEMBER 1959

**Ottawa** **2800 Mc.**

| Nov. 1959 | Type* | Start UT | Duration Hrs:Mins | Maximum Time UT | Maximum Peak Flux | Remarks |
|---|---|---|---|---|---|---|
| 1 | 2 Simple 2 | 1227.5 | 3 | 1228 | 70 | |
| 8 | 3 Simple 3 | 1835 | 50 | 1837 | 4 | |
| 10 | 2 Simple 2 | 1340 | 1 | 1340.5 | 10 | |
| 10 | 2 Simple 2 | 1637 | 2.5 | 1638.2 | 20 | |
| | 4 Post Increase A | | 1 5 | | 7 | |
| | 2 Simple 2 f | 1727.5 | 2.5 | 1727.8 | 45 | |
| 10 | 3 Simple 3 A | 1900 | >1 45 | indet. | 10 | |
| | 1 Simple 1 | 1929.5 | 1 | 1929.8 | 7 | |
| 11 | 2 Simple 2 | 2018 | 1.5 | 2018.5 | 10 | |
| 14 | 3 Simple 3 A | 1710 | 30 | indet. | 5 | |
| | 2 Simple 2 | 1712 | 2.5 | 1713 | 18 | |
| 16 | 2 Simple 2 | 1750.3 | 3 | 1750.9 | 30 | |
| 18 | 1 Simple 1 | 1941 | 2 | 1941.5 | 4 | |
| 19 | 2 Simple 2 | 1904 | 2 | 1904.5 | 8 | |
| 25 | 1 Simple 1 | 1953.8 | 1 | 1954 | 7 | |
| 26 | 2 Simple 2 | 1728.5 | 4 | 1730 | 8 | |
| 27 | 3 Simple 3 | 1334 | 8 | 1335.5 | 7 | |
| 28 | 2 Simple 2 f | 2010 | 15 | indet. | >225 | |
| | 4 Post Increase A | | > 20 | | 20 | |
| | 2 Simple 2 f | 2029 | 7 | 2031.5 | 17 | |
| 29 | 3 Simple 3 f | 1335 | 40 | 1343.3 | 28 | |
| 29 | 3 Simple 3 A | 1820 | 1 50 | indet. | 18 | |
| | 6 Complex f | 1843 | 22 | indet. | >175 | |
| 30 | 1 Simple 1 | 1542 | 2 | 1543 | 7 | |
| 30 | 2 Simple 2 f | 1737.8 | 18 | indet. | >175 | |
| | 4 Post Increase | | 1 00 | | 20 | |

# SOLAR RADIO EMISSION

## OUTSTANDING OCCURRENCES

### NOVEMBER 1959

BOULDER

167 MC

| Nov. 1959 | Type | Start UT | Time of Maximum UT | Duration Minutes | Intensity |
|---|---|---|---|---|---|
| 1 | 3 | 1619.0 | 1619.0 | 1.0 | 2 |
| 1 | 3 | 1801.3 | 1801.3 | 0.6 | 1 |
| 1 | 3 | 2138.8 | 2138.8 | 0.2 | 1 |
| 1 | 3 | 2225.1 | 2225.1 | 0.5 | 1 |
| 2 | 6 | 1330 E | | 555 D | 2 |
| 3 | 3 | 1428.5 | 1429.1 | 1.0 | 2 |
| 3 | 3 | 1503.8 | 1504.0 | 0.6 | 2 |
| 3 | 3 | 1511.5 | 1511.5 | 0.1 | 1 |
| 3 | 3 | 1546.0 | 1546.0 | 0.2 | 2 |
| 3 | 3 | 1609.0 | 1609.0 | 0.1 | 2 |
| 3 | 8 | 1705.0 | 1708.2 | 7 | 3 |
| 3 | 3 | 1714.0 | 1714.2 | 1.0 | 3 |
| 3 | 3 | 1805.0 | 1814.0 | 12 | 1 |
| 3 | 7 | 1907 | | 276 D | 2 |
| 4 | 3 | 1336.2 | 1336.3 | 0.6 | 2* |
| 4 | 3 | 1416.3 | 1416.3 | 0.6 | 2 |
| 4 | 3 | 1418.0 | 1418.0 | 0.2 | 2 |
| 4 | 3 | 1647.7 | 1647.7 | 0.2 | 2 |
| 4 | 3 | 1742.3 | 1742.3 | 0.1 | 2 |
| 4 | 3 | 2057.9 | 2057.9 | 0.1 | 3 |
| 4 | 3 | 2121.2 | 2121.3 | 0.7 | 2 |
| 5 | 3 | 1457.0 | 1457.5 | 1.0 | 2 |
| 5 | 3 | 1645.6 | 1645.9 | 0.5 | 2 |
| 5 | 3 | 1909.1 | 1909.1 | 0.6 | 3 |
| 5 | 3 | 1930.2 | 1930.2 | 0.1 | 2 |
| 6 | 6 | 1334 E | | 46 | 2* |
| 6 | 3 | 1546.9 | 1546.9 | 0.1 | 2 |
| 6 | 3 | 2143.7 | 2143.7 | 0.2 | 2 |
| 6 | 7 | 2155 | | 45 | 1** |
| 7 | 3 | 2249.1 | 2249.6 | 1.4 | 3 |
| 8 | 2 | 1349.0 | 1352.1 | 3.9 | 2* |
| 8 | 3 | 1448.8 | 1448.8 | 0.1 | 1 |
| 8 | 2 | 1506.9 | 1507.1 | 0.6 | 1 |
| 8 | 3 | 1540.0 | 1540.0 | 0.2 | 1 |
| 8 | 3 | 1558.5 | 1558.5 | 0.1 | 1 |
| 8 | 2 | 1816 | 1820 | 10 | 1 |
| 8 | 3 | 1851.8 | 1851.8 | 0.5 | 2 |
| 9 | 3 | 1557.0 | 1557.0 | 0.2 | 1 |
| 9 | 3 | 1731.0 | 1731.0 | 0.5 | 1 |
| 9 | 3 | 1736.5 | 1736.5 | 0.5 | 2 |
| 9 | 3 | 1811.0 | 1811.0 | 0.1 | 2 |
| 9 | 2 | 1839 | 1841 | 5 | 2 |
| 9 | 2 | 1901.8 | 1902.1 | 1.6 | 1 |
| 9 | 3 | 2239.0 | 2239.9 | 1.8 | 2 |
| 10 | 6 | 1440 E | | 190 | 3 |
| 10 | 2 | 1851.0 | 1851.2 | 1.0 | 1 |
| 10 | 3 | 1904.2 | 1904.2 | 0.2 | 2 |
| 10 | 3 | 1913.2 | 1913.4 | 0.2 | 2 |
| 10 | 3 | 1923.0 | 1924.1 | 1.5 | 2 |
| 10 | 3 | 1935.5 | 1935.5 | 0.2 | 2 |
| 10 | 3 | 1951.4 | 1952.5 | 1.5 | 2 |
| 10 | 3 | 2029.0 | 2030.1 | 3.0 | 2 |
| 10 | 3 | 2302.5 | 2302.5 | 0.6 | 2 |
| 11 | 3 | 1524.2 | 1524.2 | 0.5 | 2 |
| 11 | 3 | 1702.8 | 1702.8 | 1.5 | 1 |
| 11 | 3 | 1720.0 | 1720.0 | 0.5 | 1 |
| 11 | 3 | 1744.1 | 1744.1 | 0.1 | 1 |
| 11 | 3 | 2001.0 | 2001.0 | 1.0 | 3 |
| 11 | 8 | 2029.5 | 2030.7 | 4.0 | 2 |
| 11 | 3 | 2104.0 | 2104.0 | 0.1 | 1 |
| 11 | 3 | 2241.2 | 2241.2 | 1.6 | 1 |
| 12 | 3 | 1419.0 | 1419.0 | 0.2 | 1* |
| 12 | 3 | 1449.0 | 1449.0 | 0.1 | 1 |
| 12 | 3 | 1518.0 | 1518.8 | 1.0 | 1 |
| 12 | 3 | 1610.0 | 1610.1 | 0.5 | 1 |
| 12 | 2 | 1630.0 | 1630.0 | 0.2 | 1 |
| 12 | 3 | 1636.0 | 1636.0 | 0.5 | 1 |
| 12 | 3 | 1758.0 | 1758.0 | 0.5 | 1 |
| 12 | 3 | 1838.4 | 1838.4 | 0.1 | 1 |
| 12 | 2 | 1954.0 | 1954.3 | 2.0 | 1 |
| 12 | 2 | 2007.0 | 2008.9 | 3.0 | 2 |
| 12 | 3 | 2019.6 | 2019.6 | 0.2 | 2 |
| 12 | 3 | 2025.1 | 2025.1 | 0.1 | 1 |
| 12 | 3 | 2136.1 | 2137.8 | 2.1 | 3 |
| 12 | 3 | 2216.8 | 2216.9 | 2.2 | 2 |
| 12 | 2 | 2245 | 2247 | 6 | 2 |
| 13 | 6 | 1343 E | 1600 U | 591 D | 3 |
| 14 | 3 | 1355.0 | 1355.6 | 2.1 | 2* |
| 14 | 3 | 1400.0 | 1400.2 | 0.2 | 2* |
| 14 | 3 | 1417.2 | 1417.4 | 0.6 | 2 |
| 14 | 3 | 1458.0 | 1458.0 | 0.1 | 2 |
| 14 | 3 | 1558.0 | 1558.0 | 1.0 | 2 |
| 14 | 3 | 1632.0 | 1632.1 | 0.5 | 1 |
| 14 | 3 | 1708.5 | 1708.5 | 0.5 | 1 |
| 14 | 3 | 1750.0 | 1750.0 | 0.1 | 2 |
| 14 | 3 | 1757.4 | 1757.4 | 0.1 | 2 |
| 14 | 3 | 1803.0 | 1803.0 | 0.2 | 2 |
| 14 | 3 | 1808.0 | 1808.0 | 0.5 | 2 |
| 14 | 3 | 1904.1 | 1904.1 | 0.5 | 2 |
| 14 | 3 | 1908.0 | 1908.0 | 0.5 | 2 |
| 14 | 3 | 1946.0 | 1946.0 | 0.1 | 2 |
| 14 | 3 | 2021.0 | 2022.0 | 2.0 | 2 |
| 14 | 3 | 2055.2 | 2033.3 | 0.5 | 1 |
| 14 | 3 | 2247.5 | 2247.8 | 0.5 | 2** |
| 15 | 3 | 1349.1 | 1349.1 | 0.1 | 3* |
| 15 | 3 | 1422.8 | 1422.8 | 0.2 | 2 |
| 15 | 3 | 1449.0 | 1449.0 | 1.0 | 1 |
| 15 | 3 | 1453.0 | 1453.0 | 0.3 | 1 |
| 15 | 3 | 1536.8 | 1536.8 | 0.5 | 2 |
| 15 | 3 | 1549.0 | 1549.0 | 0.1 | 1 |

COMMERCE - STANDARDS - BOULDER

# OUTSTANDING OCCURRENCES
## NOVEMBER 1959

BOULDER 167 MC

| Nov. 1959 | Type | Start UT | Time of Maximum UT | Duration Minutes | Intensity |
|---|---|---|---|---|---|
| 15 | 2 | 1801.1 | 1803.0 | 2.6 | 2 |
| 15 | 2 | 1811.8 | 1812.3 | 1.1 | 2 |
| 15 | 3 | 1824.8 | 1824.8 | 0.5 | 2 |
| 15 | 3 | 1833.9 | 1833.9 | 0.1 | 1 |
| 15 | 3 | 1857.0 | 1857.0 | 0.2 | 2 |
| 15 | 3 | 2000.5 | 2000.5 | 0.1 | 1 |
| 15 | 3 | 2006.0 | 2006.0 | 0.1 | 2 |
| 15 | 3 | 2021.6 | 2021.6 | 0.0 | 2 |
| 15 | 3 | 2051.0 | 2051.0 | 0.2 | 2 |
| 15 | 3 | 2100.2 | 2100.2 | 0.1 | 2 |
| 15 | 3 | 2106.2 | 2106.5 | 0.6 | 2 |
| 15 | 3 | 2111.3 | 2111.3 | 0.1 | 1 |
| 15 | 2 | 2242.0 | 2242.0 | 0.9 | 2** |
| 15 | 3 | 2301.9 | 2301.9 | 0.2 | 2** |
| 15 | 3 | 2316.6 | 2316.6 | 0.1 | 2** |
| 15 | 2 | 2325.4 | 2325.5 | 0.1 | 2** |
| 16 | 3 | 1619.1 | 1619.1 | 1.4 | 2 |
| 16 | 3 | 1633.2 | 1633.2 | 1.0 | 2 |
| 16 | 3 | 1636.7 | 1636.7 | 0.2 | 1 |
| 16 | 3 | 1750.1 | 1750.1 | 0.1 | 1 |
| 16 | 3 | 1831.6 | 1831.6 | 0.2 | 1 |
| 16 | 3 | 1933.9 | 1933.9 | 1.0 | 3 |
| 17 | 3 | 1801.1 | 1801.1 | 0.5 | 1 |
| 17 | 6 | 1917 | | 254 D | 2 |
| 18 | 3 | 1601.3 | 1601.3 | 0.7 | 2 |
| 18 | 3 | 1629.0 | 1629.0 | 1.0 | 3 |
| 18 | 3 | 1704.0 | 1704.0 | 0.2 | 1 |
| 18 | 3 | 1908.8 | 1908.8 | 0.1 | 2 |
| 18 | 3 | 1915.1 | 1915.1 | 0.1 | 2 |
| 18 | 3 | 1923.0 | 1923.0 | 0.1 | 2 |
| 18 | 3 | 1958.3 | 1958.3 | 0.2 | 1 |
| 18 | 3 | 2115.3 | 2115.3 | 0.1 | 1 |
| 18 | 3 | 2327.8 | 2327.8 | 0.1 | 2** |
| 19 | 3 | 1401.0 | 1401.0 | 0.1 | 2* |
| 19 | 3 | 1415.5 | 1415.5 | 0.2 | 2 |
| 19 | 3 | 1430.1 | 1430.1 | 0.4 | 1 |
| 19 | 2 | 1555.1 | 1556.1 | 1.5 | 2 |
| 19 | 3 | 1600.1 | 1600.1 | 0.1 | 1 |
| 19 | 2 | 1721.0 | 1725.0 | 5 | 1 |
| 19 | 2 | 1734.1 | 1743.0 | 9 | 2 |

| Nov. 1959 | Type | Start UT | Time of Maximum UT | Duration Minutes | Intensity |
|---|---|---|---|---|---|
| 19 | 2 | 1834.0 | 1835.1 | 2.3 | 1 |
| 19 | 3 | 1844.5 | 1844.5 | 0.1 | 2 |
| 19 | 3 | 1858.0 | 1859.0 | 2.0 | 2 |
| 19 | 2 | 2001.0 | 2001.3 | 2.0 | 1 |
| 19 | 3 | 2031.0 | 2031.0 | 0.2 | 2 |
| 19 | 7 | 2053 | | 131 D | 2 |
| 20 | 6 | 1354 E | 1830 U | 574 D | 2 |
| 20 | 8 | 1533.0 | 1538.0 | 11 | 2 |
| 21 | 6 | 1424 E | 2145 U | 544 D | 2 |
| 22 | 6 | 1403 E | | 564 D | 2 |
| 23 | 6 | 1358 E | | 578 D | 2 |
| 24 | 6 | 1522 E | 1630 U | 483 D | 2 |
| 25 | 6 | 2009 E | | 195 D | 2 |
| 26 | 6 | 1357 E | | 547 D | 1 |
| 27 | 3 | 1407.4 | 1407.5 | 0.6 | 2* |
| 27 | 3 | 1410.0 | 1410.5 | 2.0 | 2* |
| 27 | 3 | 1412.5 | 1412.5 | 0.6 | 2* |
| 27 | 3 | 1450.0 | 1451.2 | 1.8 | 2 |
| 27 | 3 | 1512.5 | 1512.9 | 1.1 | 1 |
| 27 | 3 | 1744.0 | 1745.0 | 1.1 | 2 |
| 28 | 3 | 2013.9 | 2014.1 | 1.5 | 3 |
| 28 | 8 | 2015 | 2021 | 1.9 | 3 |
| 29 | 3 | 1419.9 | 1419.9 | 0.1 | 2* |
| 29 | 3 | 1421.6 | 1421.6 | 0.3 | 2* |
| 29 | 3 | 1507.0 | 1507.4 | 0.2 | 1 |
| 29 | 9A | 1850.0 | 1851.5 | 4.0 | 2 |
| 29 | 9B | 1857 | 1902 | 9 | 2 |
| 29 | 3 | 1933.5 | 1934.0 | 1.0 | 1 |
| 29 | 3 | 2307.3 | 2307.3 | 0.2 | 1** |
| 30 | 3 | 1409.4 | 1410.0 | 0.5 | 3* |
| 30 | 3 | 1531.0 | 1531.6 | 2.0 | 3 |
| 30 | 3 | 1542.8 | 1542.8 | 1.1 | 2 |
| 30 | 9A | 1740.1 | 1740.1 | 35 | 3 |
| 30 | 9B | 1815 | 1833 | 68 | 3 |
| 30 | 3 | 2005.8 | 2006.2 | 0.8 | 3 |
| 30 | 3 | 2010.8 | 2010.8 | 0.1 | 2 |

*On sunrise pattern
**On sunset pattern

## TIMES OF OBSERVATIONS

| Nov. 1959 | U.T. | Nov. 1959 | U.T. |
|---|---|---|---|
| 1 | 1321-2345 | 16 | 1345-1434 |
| 2 | 1330-2345 | | 1600-2245 |
| 3 | 1346-2343 | 17 | 1430-1454 |
| 4 | 1332-2342 | | 1511-2331 |
| 5 | 1334-2341 | 18 | 1415-2330 |
| 6 | 1334-2340 | 19 | 1350-2304 |
| 7 | 1336-2339 | 20 | 1354-2328 |
| 8 | 1337-2339 | 21 | 1424-2328 |
| 9 | 1338-1653 | 22 | 1403-2327 |
| | 1715-2022 | 23 | 1358-2326 |
| | 2143-2337 | 24 | 1522-2325 |
| 10 | 1400-2338 | 25 | 2009-2244 |
| 11 | 1340-2337 | | 2256-2324 |
| 12 | 1343-2336 | 26 | 1357-2304 |
| 13 | 1343-2334 | 27 | 1359-2323 |
| 14 | 1342-2333 | 28 | 1401-2323 |
| 15 | 1345-2330 | 29 | 1401-2322 |
| | | 30 | 1403-2322 |

COMMERCE - STANDARDS - BOULDER

# SOLAR RADIO EMISSION
# SPECTRUM OBSERVATIONS

APRIL 1959

Fort Davis — 25-580 Mc.

| Date and Observing Times (U.T.) 1959 | Type I (Noise Storms and Continuum) | | | Type II (Slow Drift Bursts) Unclassified | | | Type III (Fast Drift Bursts) | | | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|
| | Bursts* or Continuum | Time | Int | II or Unclass | Time | Int | Act | Time | Int | |
| Apr. 1 | | ← 0046 | 1 | | | | G | 0010-14 | 2 | |
| 0000-0055 | | 1311-1402 | 1- | | | | g | 0022 | 1 | |
| 1312-2400 | | 1449 | 1- | | | | g | 0028-29 | 1 | |
| | | 1524 | 1- | | | | g | 0043 | 1 | |
| | | 1627 | 1 | | | | b | 1412 | 1 | |
| | | 1642 | 1- | | | | G | 1635-37 | 1 | |
| | | 1730 | 1- | | | | g | 1640 | 3 | |
| | | 1828 | 1- | | | | g | 1644-45 | 2 | |
| | | 1855 | 1- | | | | g | 1725 | 2 | |
| | | 1914 | 1- | | | | g | 1805 | 1 | |
| | | 1925-43 | 1- | | | | b | 1811 | 1 | |
| | | 2021 | 1- | | | | g | 1844-45 | 1 | |
| | | 2133 | 1- | | | | b | 1846 | 1 | |
| | | | | | | | g | 1858 | 2 | |
| | | | | | | | b | 1916 | 1 | |
| | | | | | | | b | 1936 | 1- | |
| | | | | | | | b | 1952 | 1- | |
| | | | | | | | g | 1955 | 1- | |
| | | | | | | | g | 2100 | 1 | |
| | | | | | | | g | 2122-23 | 1 | |
| | | | | | | | g | 2124 | 1 | |
| Apr. 2 | | 0026-27 | 1- | Uncl. | 1604 | | g | 1408-09 | 1- | |
| 0000-0055 | | | | Uncl. | 1839 | | G | 1410-12 | 1- | |
| 1312-2400 | | | | | | | b | 1611 | 1- | |
| Apr. 3 | | | | | | | g | 0046-48 | 1- | |
| 0000-0055 | | | | | | | g | 1710 | 2 | |
| 1312-2400 | | | | | | | g | 1922 | 1- | |
| | | | | | | | b | 2101 | 1 | |
| | | | | | | | G | 2132 | 2 | |
| Apr. 4 | Cont. | 1939-40 | 3 | | | | b | 1334 | 1 | |
| 0000-0055 | Cont. | 1943-44 | 3 | | | | b | 1551 | 1- | |
| 1312-2400 | | 1319-22 | 1- | | | | g | 1848-52 | 1 | |
| | | 1341-1410 | 1- | | | | g | 1855 | 1- | |
| | | 1425-1503 | 1- | | | | g | 1857-58 | 1 | |
| | | 1811-14 | 1- | | | | G | 1906-08 | 3 | |
| | | 1927 | 1- | | | | G | 1937-39 | 2 | 1939 U burst. |
| | | 1953-2049 | 1- | | | | b | 1942 | 1 | |
| | | 2049-2112 | 1 | | | | g | 1943-44 | 2 | |
| | | 2112-2311 | 1- | | | | b | 2028 | 1 | |
| | | 2343 → | | | | | b | 2033 | 1 | |
| | | | | | | | b | 2249 | 3 | |
| | | | | | | | g | 2306 | 1- | |
| | | | | | | | g | 2323 | 1 | |
| | | | | | | | g | 2341 | 1- | |
| | | | | | | | g | 2351-52 | 1- | |
| Apr. 5 | Cont. | 1640-42 | 3 | Uncl. | 2324-26 | 3 | g | 0000 | 1- | |
| 0000-0100 | | 0041-46 | 1- | | | | g | 1418-19 | 2 | |
| 1312-2400 | | 1449-50 | 1- | | | | b | 1420 | 1 | |
| | | 1503-09 | 1- | | | | b | 1427 | 2 | |
| | | 1551-52 | 1- | | | | b | 1509 | 3 | |
| | | 2056-2123 | 1- | | | | g | 1536 | 1 | |
| | | 2150-51 | 1- | | | | b | 1545 | 1 | |
| | | 2158-2202 | 1- | | | | g | 1610-11 | 2 | |
| | | 2221-33 | 1- | | | | g | 1615 | 3 | |
| | | 2245-2307 | 1- | | | | b | 1618 | 1 | |
| | | 2307 → | 1 | | | | G | 1639-43 | 2 | |
| | | | | | | | g | 1731-32 | 2 | |
| | | | | | | | b | 1807 | 1 | |
| | | | | | | | b | 1830 | 2 | |
| | | | | | | | g | 1832-33 | 1- | |
| | | | | | | | b | 1837 | 1- | |
| | | | | | | | G | 1908-17 | 2 | |
| | | | | | | | g | 1919-21 | 1- | |
| | | | | | | | b | 1930 | 1- | |
| | | | | | | | b | 2032 | 3 | |
| | | | | | | | b | 2114 | 2 | |
| | | | | | | | b | 2140 | 1- | |
| | | | | | | | g | 2315 | 2 | |
| | | | | | | | b | 2328 | 2 | |
| | | | | | | | g | 2339-40 | 2 | |
| Apr. 6 | | ← 0053 | 1 | | | | g | 1319 | 2 | |
| 0000-0100 | | 1314-1409 | 1- | | | | b | 1409 | 2 | |
| 1312-2400 | | 1447-49 | 1- | | | | b | 1555 | 2 | |
| | | 1543-44 | 1- | | | | b | 1844 | 3 | |
| | | 1859-1908 | 1- | | | | g | 1845-46 | 3 | 1846 U burst |
| | | 1946-56 | 1- | | | | g | 1855 | 1 | |
| | | 2059-2124 | 1- | | | | g | 2033 | 1 | |
| | | 2233 | 1- | | | | g | 2125 | 2 | |
| | | 2347 | 1- | | | | g | 2139 | 3 | |
| | | | | | | | g | 2140-41 | 3 | |
| | | | | | | | b | 2144 | 1 | |
| Apr. 7 | Cont. | 1505-1845 | 1 | | | | b | 1452 | 1- | |
| 0000-0100 | | 1313-15 | 1- | | | | b | 1454 | 1 | |
| 1312-2400 | | 1330-1408 | 1- | | | | g | 1458 | 1- | |
| | | 1408-29 | 1 | | | | b | 1459 | 1- | |

# SOLAR RADIO EMISSION
# SPECTRUM OBSERVATIONS

APRIL 1959

**Fort Davis** — **25-580 Mc.**

| Date and Observing Times (U.T.) 1959 | Type I (Noise Storms and Continuum) | | | Type II (Slow Drift Bursts) Unclassified | | | Type III (Fast Drift Bursts) | | | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|
| | Bursts* or Continuum | Time | Int | II or Unclass | Time | Int | Act | Time | Int | |
| | | 1429-57 | 1- | | | | g | 1525-27 | 2 | |
| | | 1515-1650 | 1- | | | | g | 1616 | 1 | |
| | | 1650-1805 | 1 | | | | G | 1920-23 | 3 | |
| | | 1805-13 | 2 | | | | g | 1926 | 1 | |
| | | 1813 → | 1 | | | | g | 2042 | 3 | |
| | | | | | | | g | 2054 | 2 | |
| | | | | | | | g | 2056 | 1 | |
| | | | | | | | g | 2058 | 2 | |
| | | | | | | | g | 2127 | 3 | |
| | | | | | | | g | 2128 | 1 | |
| | | | | | | | g | 2244 | 2 | |
| Apr. 8 | Cont. | 1313-16 | 3 | | | | g | 0034 | 2 | |
| 0000-0059 | Cont. | 1316-24 | 1 | | | | G | 1312-15 | 2 | 2045-48 Four |
| 1312-2400 | Cont. | 2047 | 2 | | | | b | 1408 | 3 | U bursts |
| | | ← 0046 | 1 | | | | G | 1432-34 | 2 | |
| | | 1312-41 | 1- | | | | G | 1442-43 | 2 | |
| | | 1411 | 1- | | | | b | 1547 | 2 | |
| | | 1427-42 | 1- | | | | b | 1609 | 1 | |
| | | 1536 | 1- | | | | g | 1717-18 | 2 | |
| | | 1543-44 | 1- | | | | G | 1719-25 | 3+ | |
| | | 1741 | 1- | | | | g | 1726-27 | 1 | |
| | | 2103-04 | 1- | | | | G | 1728-33 | 3 | |
| | | 2133-50 | 1- | | | | b | 1734 | 1 | |
| | | | | | | | G | 1735-39 | 2 | |
| | | | | | | | g | 1744-45 | 3+ | |
| | | | | | | | b | 1747 | 1- | |
| | | | | | | | g | 1750 | 1- | |
| | | | | | | | g | 1753 | 2 | |
| | | | | | | | g | 1942 | 2 | |
| | | | | | | | b | 2011 | 2 | |
| | | | | | | | G | 2045-48 | 2 | |
| | | | | | | | g | 2050-52 | 2 | |
| | | | | | | | b | 2121 | 2 | |
| | | | | | | | G | 2126-27 | 2 | |
| | | | | | | | b | 2137 | 1 | |
| Apr. 8 | | | | | | | b | 2139 | 1 | |
| (Cont. | | | | | | | g | 2141 | 3 | |
| | | | | | | | g | 2149-50 | 1 | |
| | | | | | | | b | 2241 | 1 | |
| Apr. 9 | Cont. | 1649-50 | 3 | II | 1653-1703 | 3 | b | 0001 | 1- | |
| 0000-0104 | Cont. | 1925-26 | 3 | Uncl. | 1718-22 | 3 | g | 0005-06 | 1- | |
| 1312-2400 | | 0038-52 | 1 | | | | g | 0039-40 | 1- | |
| | | 1451 | 1- | | | | G | 0052-54 | 2 | |
| | | 1751-1756 | 1- | | | | G | 0101-02 | 2 | |
| | | 2304-2353 | 1- | | | | g | 1321-22 | 2 | |
| | | 2353 → | 1 | | | | b | 1336 | 1 | |
| | | | | | | | g | 1357 | 2 | |
| | | | | | | | g | 1424 | 2 | |
| | | | | | | | b | 1509 | 1 | |
| | | | | | | | b | 1511 | 1 | |
| | | | | | | | g | 1537 | 2 | |
| | | | | | | | g | 1539 | 1- | |
| | | | | | | | g | 1542 | 2 | |
| | | | | | | | g | 1610-12 | 2 | |
| | | | | | | | g | 1618-19 | 1- | |
| | | | | | | | g | 1624 | 1 | |
| | | | | | | | g | 1627 | 2 | |
| | | | | | | | g | 1628-29 | 2 | |
| | | | | | | | G | 1646-50 | 2 | 1648 U burst |
| | | | | | | | g | 1705-06 | 2 | |
| | | | | | | | g | 1717 | 3 | |
| | | | | | | | b | 1720 | 1- | 1718 Features of Type II |
| | | | | | | | g | 1733 | 2 | |
| | | | | | | | g | 1735-36 | 2 | |
| | | | | | | | g | 1756-57 | 2 | |
| | | | | | | | g | 1759-1800 | 3 | |
| | | | | | | | G | 1802-05 | 2 | |
| | | | | | | | b | 1806 | 2 | |
| | | | | | | | b | 1833 | 3 | |
| | | | | | | | b | 1848 | 3 | |
| | | | | | | | b | 1859 | 1- | |
| | | | | | | | g | 1911 | 3 | |
| | | | | | | | b | 1914 | 2 | |
| | | | | | | | g | 1920-21 | 3 | |
| | | | | | | | G | 1923-27 | 3 | |
| | | | | | | | g | 2003-04 | 2 | |
| | | | | | | | b | 2025 | 1 | |
| | | | | | | | b | 2044 | 2 | |
| | | | | | | | g | 2045 | 2 | |
| | | | | | | | g | 2048-49 | 2 | |
| | | | | | | | g | 2111-12 | 2 | |
| | | | | | | | g | 2125 | 1- | |
| | | | | | | | b | 2135 | 2 | |
| | | | | | | | g | 2137-38 | 2 | |
| | | | | | | | g | 2235 | 1 | |
| | | | | | | | g | 2252 | 2 | |
| | | | | | | | b | 2311 | 1 | |
| | | | | | | | b | 2313 | 3 | |
| | | | | | | | b | 2323 | 1- | |

# SOLAR RADIO EMISSION
# SPECTRUM OBSERVATIONS

APRIL 1959

Fort Davis

25-580 Mc.

| Date and Observing Times (U.T.) 1959 | Type I (Noise Storms and Continuum) | | | Type II (Slow Drift Bursts) Unclassified | | | Type III (Fast Drift Bursts) | | | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|
| | Bursts* or Continuum | Time | Int | II or Unclass | Time | Int | Act | Time | Int | |
| Apr. 10 | Cont. | 1648-50 | 3 | | | | 8 | 1321-22 | 2 | |
| 0000-0104 | | ←0104 | 1 | | | | 8 | 1609 | 3 | |
| 1306-2400 | | 1306-52 | 1- | | | | G | 1648-49 | 1 | |
| | | 1618 | 1- | | | | b | 1653 | 3 | |
| | | | | | | | b | 1802 | 2 | |
| | | | | | | | b | 1803 | 1 | |
| | | | | | | | 8 | 1805 | 2 | |
| | | | | | | | b | 1904 | 1- | |
| | | | | | | | 8 | 2115-17 | 2 | |
| | | | | | | | 8 | 2353 | 3 | |
| Apr. 11 | | 1300-56 | 1 | II | 2149-54 | 3 | g | 1331 | 2 | |
| 0000-0105 | | 1356-1443 | 1- | | | | G | 1453-56 | 2 | |
| 1300-2400 | | 1443-1524 | 1 | | | | b | 1521 | 2 | |
| | | 1524-1627 | 1- | | | | b | 1552 | 3 | |
| | | 1643-1756 | 1- | | | | b | 1608 | 3 | |
| | | 1820-53 | 1- | | | | b | 1802 | 2 | 1552 U burst |
| | | 1907-36 | 1- | | | | g | 1804 | 2 | |
| | | 1947-2016 | 1- | | | | b | 1806 | 2 | |
| | | 2040-2104 | 1- | | | | b | 1824 | 2 | |
| | | 2157-58 | 1- | | | | 8 | 2032 | 2 | |
| | | 2240-2301 | 1- | | | | 8 | 2057 | 1 | |
| | | 2309-16 | 1- | | | | 8 | 2146-47 | 2 | |
| | | 2344→ | 1- | | | | b | 2254 | 1 | |
| | | | | | | | 8 | 2300-01 | 2 | |
| | | | | | | | 8 | 2329-31 | 1 | |
| | | | | | | | g | 2346-47 | 1 | |
| | | | | | | | b | 2349 | 1 | |
| | | | | | | | g | 2351 | 1- | |
| Apr. 12 | | ←0028 | 1- | | | | g | 0017 | 3 | |
| 0000-0105 | | 1304 | 1- | | | | g | 1327-28 | 2 | |
| 1300-2400 | | 1317-22 | 1- | | | | G | 1329-30 | 3 | |
| | | | | | | | 8 | 1413 | 3 | |
| | | | | | | | g | 1414 | 1 | |
| | | | | | | | g | 1418 | 2 | |
| | | | | | | | 8 | 1539 | 1 | |
| | | | | | | | b | 1541 | 1 | |
| | | | | | | | g | 1631 | 1 | |
| | | | | | | | g | 1707 | 1 | |
| | | | | | | | 8 | 1729-30 | 1 | |
| | | | | | | | b | 1824 | 3 | |
| | | | | | | | 8 | 1846 | 2 | |
| | | | | | | | 8 | 1848-49 | 2 | |
| | | | | | | | g | 1851-52 | 2 | |
| | | | | | | | G | 1859-1901 | 3 | |
| | | | | | | | g | 1954 | 2 | |
| | | | | | | | b | 2007 | 1 | |
| | | | | | | | g | 2009-10 | 2 | |
| | | | | | | | b | 2018 | 3 | |
| | | | | | | | b | 2026 | 2 | |
| | | | | | | | G | 2028-29 | 2 | |
| | | | | | | | 8 | 2041-42 | 1- | |
| | | | | | | | 8 | 2046-47 | 2 | |
| | | | | | | | b | 2137 | 1 | |
| | | | | | | | 8 | 2154 | 2 | |
| | | | | | | | b | 2210 | 1 | |
| | | | | | | | G | 2245-46 | 2 | |
| | | | | | | | 8 | 2323 | 1 | |
| Apr. 13 | | 1313 | 1- | | | | 8 | 0046 | 2 | |
| 0000-0105 | | 1948 | 1- | | | | 8 | 0047-48 | 2 | |
| 1300-2400 | | | | | | | 8 | 1304-05 | 1 | |
| | | | | | | | 8 | 1508 | 1- | |
| | | | | | | | 8 | 1918-19 | 1- | |
| | | | | | | | b | 2229 | 1 | |
| | | | | | | | 8 | 2301 | 1 | |
| | | | | | | | b | 2307 | 1- | |
| | | | | | | | g | 2309 | 1 | |
| | | | | | | | b | 2313 | 2 | |
| Apr. 14 | Cont. (IV) | 1824-27 | 3 | Uncl. | 1849 | 3 | 8 | 1304-05 | 1- | |
| 0000-0105 | Cont. (IV) | 1827-29 | 2 | Uncl. | 1850-52 | 1 | G | 1453 | 1 | |
| 1300-2400 | Cont. (IV) | 1829-31 | 1 | | | | G | 1823-26 | 1- | |
| | | | | | | | 8 | 1845-46 | 1 | |
| Apr. 15 | | 1748-50 | 1- | | | | b | 1307 | 1- | |
| 0000-0109 | | 1800-02 | 1 | | | | g | 1506 | 1 | |
| 1300-2400 | | | | | | | | | | |
| Apr. 16 | | 1309-10 | 1 | | | | 8 | 1911 | 3 | |
| 0000-0115 | | 1515-16 | 1 | | | | 8 | 2004 | 2 | |
| 1300-2400 | | 1558-1700 | 1- | | | | b | 2044 | 1 | |
| | | 1700-21 | 1 | | | | b | 2047 | 2 | |
| | | 1721-32 | 1- | | | | b | 2101 | 3 | |
| | | 1804-2012 | 1- | | | | 8 | 2103 | 1 | |
| | | 2043-58 | 1- | | | | 8 | 2104 | 2 | |
| | | 2109-13 | 1- | | | | b | 2325 | 2 | |
| | | 2134-42 | 1- | | | | | | | |
| | | 2155 | 1- | | | | | | | |
| | | 2314 | 1- | | | | | | | |
| | | 2348 | 1- | | | | | | | |

# SOLAR RADIO EMISSION
## SPECTRUM OBSERVATIONS

APRIL 1959

**Fort Davis** 25-580 Mc.

| Date and Observing Times (U.T.) 1959 | Type I (Noise Storms and Continuum) | | | Type II (Slow Drift Bursts) Unclassified | | | Type III (Fast Drift Bursts) | | | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|
| | Bursts* or Continuum | Time | Int | II or Unclass | Time | Int | Act | Time | Int | |
| Apr. 17 | | 1345-46 | 1- | Uncl. | 0044 | 2 | b | 0007 | 2 | |
| 0000-0114 | | 1609-20 | 2 | | | | g | 0009 | 2 | |
| 1300-2400 | | 1951-2000 | 1- | | | | g | 1601-03 | 3 | |
| | | 2024-26 | 1 | | | | b | 1738 | 3 | |
| | | | | | | | g | 1901 | 1- | |
| | | | | | | | b | 1925 | 1 | |
| | | | | | | | g | 2110 | 2 | |
| | | | | | | | g | 2304 | 2 | |
| Apr. 18 | | 1853-54 | 1- | | | | b | 0029 | 1- | |
| 0000-0115 | | 1936-2017 | 1- | | | | g | 0032-33 | 1- | |
| 1300-2400 | | 2033-35 | 1 | | | | b | 0035 | 1- | |
| | | 2049-2204 | 1- | | | | g | 0042-43 | 1- | |
| | | 2322 | 1- | | | | g | 0044 | 1 | |
| | | 2335-38 | 1- | | | | G | 0047-48 | 1 | |
| | | 2344-47 | 1- | | | | b | 1939 | 1 | |
| | | | | | | | g | 2101 | 1- | |
| | | | | | | | g | 2144 | 1- | |
| | | | | | | | g | 2315-16 | 1- | |
| | | | | | | | G | 2327-30 | 3 | |
| | | | | | | | b | 2343 | 1- | |
| Apr. 19 | | 1429-30 | 1- | | | | b | 0041 | 1- | |
| 0000-0115 | | | | | | | b | 1737 | 1- | |
| 1300-2400 | | | | | | | g | 1902-03 | 1 | |
| | | | | | | | g | 1907 | 1 | |
| | | | | | | | g | 1909 | 1- | |
| | | | | | | | g | 1911 | 1- | |
| | | | | | | | g | 2059 | 1- | |
| | | | | | | | g | 2212 | 1- | |
| | | | | | | | g | 2214-15 | 1- | |
| Apr. 20 | | | | | | | g | 0041 | 1- | |
| 0000-0115 | | | | | | | g | 1450-51 | 1- | |
| 1300-2400 | | | | | | | g | 1456-57 | 3 | |
| | | | | | | | g | 1457-59 | 3 | |
| | | | | | | | G | 1501-03 | 3 | |
| | | | | | | | b | 1650 | 1- | |
| | | | | | | | g | 1822 | 1- | |
| | | | | | | | g | 2258 | 2 | |
| | | | | | | | g | 2333 | 1- | |
| | | | | | | | g | 2356-57 | 2 | |
| | | | | | | | G | 2359-2400 | 2 | |
| Apr. 21 | Cont. | 1830-31 | 3 | | | | b | 0022 | 1 | |
| 0000-0119 | | 1603-04 | 1- | | | | g | 0028 | 1- | |
| 1243-2400 | | 2013-16 | 1- | | | | g | 1554-55 | 1 | |
| | | | | | | | b | 1655 | 3 | |
| | | | | | | | b | 1747 | 3 | |
| | | | | | | | g | 1752 | 2 | 1752 U burst |
| | | | | | | | g | 1830-31 | 2 | with harmonics |
| | | | | | | | b | 1832 | 3 | |
| | | | | | | | g | 1834 | 3 | |
| | | | | | | | g | 1835 | 1- | |
| | | | | | | | g | 1850-52 | 2 | |
| | | | | | | | G | 1915-17 | 2 | |
| | | | | | | | g | 1919 | 2 | |
| | | | | | | | g | 1922-23 | 1 | |
| | | | | | | | g | 1933-34 | 3 | |
| | | | | | | | b | 1958 | 1 | |
| | | | | | | | b | 2007 | 1 | |
| | | | | | | | g | 2009 | 1- | |
| | | | | | | | g | 2010 | 1 | |
| | | | | | | | g | 2034 | 1 | |
| | | | | | | | g | 2135 | 1 | |
| | | | | | | | g | 2136 | 1- | |
| | | | | | | | g | 2213-14 | 1- | |
| | | | | | | | g | 2244 | 1 | |
| | | | | | | | g | 2303 | 1 | |
| | | | | | | | g | 2306-07 | 1 | |
| Apr. 22 | | | | | | | g | 0010 | 1 | |
| 0000-0120 | | | | | | | g | 0014-16 | 1 | |
| 1244-2400 | | | | | | | g | 0037-38 | 1- | |
| | | | | | | | b | 0043 | 1- | |
| | | | | | | | g | 0048 | 1- | |
| | | | | | | | G | 0102-6 | 1 | |
| | | | | | | | g | 1315-16 | 1 | |
| | | | | | | | g | 1317-18 | 2 | |
| | | | | | | | g | 1320 | 1 | |
| | | | | | | | g | 1616 | 1 | |
| | | | | | | | g | 1658 | 2 | |
| | | | | | | | g | 1938 | 1 | |
| | | | | | | | g | 1947-48 | 1- | |
| | | | | | | | g | 1950 | 1- | |
| Apr. 23 | | | | | | | b | 1520 | 1- | |
| 0000-0119 | | | | | | | b | 1746 | 2 | |
| 1242-2400 | | | | | | | g | 1957 | 2 | |
| | | | | | | | b | 2218 | 1- | |
| | | | | | | | g | 2221-22 | 1- | |

# SOLAR RADIO EMISSION
# SPECTRUM OBSERVATIONS

APRIL - MAY 1959

**Fort Davis** — **25-580 Mc.**

| Date and Observing Times (U.T.) 1959 | Type I (Noise Storms and Continuum) | | | Type II (Slow Drift Bursts) Unclassified | | | Type III (Fast Drift Bursts) | | | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|
| | Bursts* or Continuum | Time | Int | II or Unclass | Time | Int | Act | Time | Int | |
| Apr. 24 | | 1249 | 1- | | | | g | 0035 | 1 | |
| 0000-0120 | | 1330-33 | 1- | | | | b | 1324 | 1 | 1615 U burst |
| 1242-2400 | | 2319 | 1- | | | | b | 1355 | 1- | |
| | | | | | | | g | 1411-12 | 1 | |
| | | | | | | | b | 1426 | 2 | |
| | | | | | | | g | 1455 | 1 | |
| | | | | | | | g | 1522 | 2 | |
| | | | | | | | b | 1543 | 1- | |
| | | | | | | | g | 1615-16 | 2 | |
| | | | | | | | g | 1620 | 1- | |
| | | | | | | | g | 1736 | 2 | |
| | | | | | | | b | 1906 | 1- | |
| | | | | | | | b | 2046 | 1 | |
| | | | | | | | g | 2142 | 1 | |
| | | | | | | | b | 2153 | 1- | |
| | | | | | | | b | 2215 | 1- | |
| | | | | | | | g | 2231 | 1- | |
| | | | | | | | g | 2232-33 | 1 | |
| | | | | | | | g | 2234 | 1 | |
| | | | | | | | b | 2239 | 1- | |
| | | | | | | | b | 2250 | 2 | |
| | | | | | | | g | 2305 | 2 | |
| | | | | | | | G | 2329-30 | 2 | |
| | | | | | | | b | 2348 | 1- | |
| Apr. 25 | | | | | | | | | | |
| 0000-0120 | | 0008 | 1- | | | | g | 1526-27 | 1- | |
| 1242-2400 | | 1242-1445 | 2 | | | | g | 1630-31 | 1 | |
| | | 1445-1517 | 1 | | | | g | 2108 | 1 | |
| | | 1517-44 | 1- | | | | g | 2127-28 | 1 | |
| | | 1646 | 1 | | | | g | 2129 | 1 | |
| | | 1721-1823 | 1 | | | | g | 2132 | 1- | |
| | | 1902 | 1 | | | | b | 2230 | 1 | |
| | | 2003 | 1- | | | | G | 2331-33 | 1 | |
| | | 2302-09 | 1- | | | | g | 2335 | 1- | |
| | | 2318-23 | 1- | | | | | | | |
| | | 2351-2400 | 1- | | | | | | | |
| Apr. 26 | | 0006-30 | 1 | | | | g | 1533 | 1 | |
| 0000-0120 | | 0044-0108 | 1- | | | | b | 1741 | 1- | |
| 1243-2400 | | 1417-1526 | 1 | | | | g | 1918 | 1 | |
| | | 1526-1603 | 1- | | | | g | 1920 | 1- | |
| | | 1758 | 1- | | | | g | 1925-27 | 2 | |
| | | 1854-57 | 1- | | | | g | 2108-09 | 2 | |
| | | 1949-53 | 1- | | | | g | 2354-55 | 2 | |
| Apr. 27 | | 0111-13 | 1- | | | | g | 0019 | 2 | |
| 0000-0120 | | 1458 | 1- | | | | g | 0020 | 1- | 0019 U burst |
| 1320-2400 | | 1837-1917 | 1- | | | | b | 1506 | 3 | |
| | | 1928-31 | 1- | | | | g | 1518 | 3 | |
| | | 2235 | 1 | | | | g | 1524 | 2 | |
| | | | | | | | g | 1636 | 3 | |
| | | | | | | | g | 1642 | 2 | |
| | | | | | | | g | 1743 | 1- | |
| | | | | | | | g | 1749 | 1- | |
| | | | | | | | g | 1750 | 2 | |
| | | | | | | | g | 1756 | 2 | |
| | | | | | | | b | 1759-1800 | 2 | |
| | | | | | | | G | 1938-41 | 3 | |
| | | | | | | | g | 2103-04 | 1- | |
| | | | | | | | b | 2109 | 1 | |
| Apr. 28 | | | | | | | | | | |
| 0000-0114 | | | | | | | g | 0035 | 2 | |
| Apr. 29 | | | | | | | | | | No activity observed |
| Apr. 30 | | 1937-2009 | 1 | | | | g | 2136-39 | 2 | Frequency Range 50-330 Mc/s |
| | | 2009-2259 | 2 | | | | | | | |
| | | 2300-2400 | 1 | | | | | | | |
| May 1 | | 0000-0118 | 1 | | | | b | 0115 | 1- | Frequency range 50-330 Mc/s |
| 0000-0125 | | 1243-57 | 1- | | | | | | | |
| 1243-2400 | | 1302-1413 | 1- | | | | | | | |
| | | 1436-1523 | 1 | | | | | | | |
| | | 1555-1616 | 1- | | | | | | | |
| | | 1640-41 | 1 | | | | | | | |
| | | 1701-2001 | 1- | | | | | | | |
| | | 2001-2135 | 1 | | | | | | | |
| | | 2250-2400 | 1 | | | | | | | |
| May 2 | | 0004 | 1 | Uncl. | 1418 | 1 | g | 1410-11 | 1 | Frequency range 50/330 Mc/s |
| 0000-0125 | | 0044-47 | 1 | | | | b | 1613 | 1- | |
| 1242-2400 | | 0104-0121 | 1 | | | | b | 1615 | 1- | |
| | | 2328-39 | 1 | | | | b | 1926 | 1 | |
| | | | | | | | g | 1933 | 2 | |
| | | | | | | | g | 2106-7 | 3 | |
| | | | | | | | b | 2123 | 1 | |
| | | | | | | | b | 2357 | 1 | |

# SOLAR RADIO EMISSION
# SPECTRUM OBSERVATIONS

MAY 1959

Fort Davis — 25-580 Mc.

| Date and Observing Times (U.T.) 1959 | Type I (Noise Storms and Continuum) | | | Type II (Slow Drift Bursts) Unclassified | | | Type III (Fast Drift Bursts) | | | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|
| | Bursts* or Continuum | Time | Int | II or Unclass | Time | Int | Act | Time | Int | |
| May 3 | Cont. | 1509-1510 | 2 | II | 0012-22 | 3 | g | 0011 | 2 | Frequency range |
| 0000-0125 | | 1245 | 1 | Uncl. | 1732 | 2 | g | 1354 | 1- | 50/330 Mc/s |
| 1242-2400 | | 1319-26 | 1 | Uncl. | 1805 | 3 | b | 1427 | 1 | |
| | | 1516 | 1 | | | | b | 1509 | 3 | |
| | | 1519-49 | 1 | | | | g | 1548 | 1 | |
| | | 1710 | 1 | | | | b | 1652 | 1- | |
| | | 1825 | 1- | | | | g | 1750-1 | 2 | |
| | | | | | | | g | 2011 | 1 | |
| | | | | | | | g | 2251 | 2 | |
| | | | | | | | g | 2256-7 | 2 | |
| | | | | | | | b | 2309 | 1 | |
| May 4 | | 1647-49 | 1 | | | | b | 0109 | 2 | |
| 0000-0130 | | 2201-02 | 1 | | | | b | 1413 | 1- | Frequency range |
| 1243-2400 | | | | | | | b | 1616 | 2 | 50/330 Mc/s |
| | | | | | | | b | 1618 | 1 | |
| | | | | | | | g | 1648-50 | 1 | |
| | | | | | | | g | 1740 | 1- | |
| | | | | | | | g | 1903 | 1- | |
| | | | | | | | g | 2122-23 | 2 | |
| | | | | | | | g | 2158-59 | 1- | |
| | | | | | | | b | 2252 | 1 | |
| May 5 | Cont. | 1736-37 | 3 | Uncl. | 1648 | 1 | b | 1330 | 2 | Frequency range |
| 0000-0125 | Cont. | 1916 | 3 | Uncl. | 1724 | 1 | g | 1350 | 3 | 50/330 Mc/s |
| 1242-2400 | Cont. | 2229-30 | 1 | Uncl. | 1733 | 1 | b | 1353 | 1 | |
| | Cont. | 2318-2400 | 1 | | | | b | 1450 | 1 | |
| | Cont. | 2353 | 3 | | | | b | 1453 | 1- | |
| | | 1417-1910 | 1 | | | | g | 1511-12 | 1 | |
| | | 1936-2001 | 1- | | | | b | 1514 | 1 | |
| | | 2032-41 | 1- | | | | g | 1611-14 | 2 | |
| | | 2115-27 | 1- | | | | g | 1613 | 1- | |
| | | 2146-48 | 1 | | | | b | 1658 | 1 | |
| | | 2210 | 1 | | | | g | 1712-13 | 1- | |
| | | | | | | | b | 1723 | 1- | |
| | | | | | | | g | 1736-37 | 3 | |
| | | | | | | | g | 1738-40 | 2 | |
| | | | | | | | g | 1741-42 | 1- | |
| | | | | | | | b | 1845 | 1 | |
| | | | | | | | g | 1912-13 | 2 | |
| | | | | | | | g | 1915-16 | 3 | |
| | | | | | | | b | 1918 | 1- | |
| | | | | | | | b | 1922 | 1 | |
| | | | | | | | b | 1941 | 1- | |
| | | | | | | | g | 2017-18 | 1 | |
| | | | | | | | g | 2106-07 | 3 | |
| | | | | | | | g | 2107-08 | 3 | |
| | | | | | | | G | 2109-11 | 3 | |
| | | | | | | | g | 2151 | 2 | |
| | | | | | | | b | 2210 | 1- | |
| | | | | | | | g | 2226 | 1 | |
| | | | | | | | g | 2228-9 | 1 | |
| | | | | | | | b | 2240 | 1 | |
| | | | | | | | g | 2251 | 3 | |
| | | | | | | | g | 2306-07 | 1 | |
| | | | | | | | g | 2352-53 | 3 | |
| May 6 | Cont. | 0008-09 | 2 | Uncl. | 1331 | 2 | b | 0002 | 2 | Frequency Range |
| 0000-0125 | Cont. | 1328-29 | 2 | Uncl. | 1617-18 | 2 | b | 0008 | 2 | 50-330 Mc/s |
| 1243-2400 | Cont. | 2016-18 | 3 | Uncl. | 1715 | 2 | b | 0037 | 1 | |
| | | 1333-49 | 1- | | | | g | 0113 | 2 | |
| | | 1911 | 1- | | | | b | 0116 | 2 | |
| | | 2010-20 | 1- | | | | g | 1303 | 1 | |
| | | 2114-15 | 1 | | | | g | 1328 | 3 | |
| | | | | | | | b | 1335 | 2 | |
| | | | | | | | g | 1518 | 2 | |
| | | | | | | | g | 1544-47 | 1 | |
| | | | | | | | g | 1550 | 1- | |
| | | | | | | | g | 1552-53 | 2 | |
| | | | | | | | b | 1555 | 1- | |
| | | | | | | | | 1542 | 1- | |
| | | | | | | | | 1719-20 | 2 | |
| | | | | | | | g | 1722 | 2 | |
| | | | | | | | g | 1724-25 | 1 | |
| | | | | | | | g | 1910-11 | 1 | |
| | | | | | | | g | 1918 | 3 | |
| | | | | | | | b | 1919 | 1- | |
| | | | | | | | b | 1921 | 1 | |
| | | | | | | | g | 1922-23 | 3 | |
| | | | | | | | g | 2016-17 | 3 | |
| | | | | | | | b | 2022 | 3 | |
| | | | | | | | b | 2024 | 3 | |
| | | | | | | | g | 2019 | 2 | |
| | | | | | | | g | 2154-55 | 1- | |
| | | | | | | | g | 2203 | 2 | |
| | | | | | | | b | 2206 | 2 | |
| | | | | | | | g | 2345-46 | 1- | |
| | | | | | | | b | 2352 | 1 | |
| May 7 | Cont. | 1638-40 | 3 | Uncl. | 1619 | 2 | g | 0003 | 1- | Frequency Range |
| 0000-0130 | Cont. | 2240-41 | 3 | Uncl. | 1956 | 1- | g | 1250 | 2 | 50-330 Mc/s |
| 1244-2400 | | 1246-1315 | 1 | | | | g | 1251 | 2 | |
| | | 1336 | 1 | | | | g | 1252-53 | 1- | |

# SOLAR RADIO EMISSION
## SPECTRUM OBSERVATIONS

MAY 1959

Fort Davis — 25-580 Mc.

| Date and Observing Times (U.T.) 1959 | Type I (Noise Storms and Continuum) | | | Type II (Slow Drift Bursts) Unclassified | | | Type III (Fast Drift Bursts) | | | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|
| | Bursts* or Continuum | Time | Int | II or Unclass | Time | Int | Act | Time | Int | |
| | | 1340 | 1- | | | | G | 1257-1300 | 3 | |
| | | 1346-47 | 1 | | | | g | 1302-03 | 2 | |
| | | 1409-26 | 1 | | | | b | 1306 | 1- | |
| | | 1426-17 | 2 | | | | g | 1344 | 2 | |
| | | 1428-1522 | 1 | | | | g | 1423 | 2 | |
| | | 1524-49 | 1- | | | | g | 1445 | 2 | |
| | | 1549-1600 | 2 | | | | g | 1447 | 1 | |
| | | 1607-1813 | 1- | | | | b | 1503 | 2 | |
| | | 1813-16 | 2 | | | | g | 1505-07 | 1 | |
| | | 1822-23 | 2 | | | | g | 1508-09 | 2 | |
| | | 1832-1912 | 1 | | | | g | 1512 | 3 | |
| | | 1913-14 | 2 | | | | g | 1513-14 | 1 | |
| | | 1924-39 | 1- | | | | b | 1515 | 1- | |
| | | 1939-2022 | 2 | | | | g | 1517 | 3 | |
| | | 2023-35 | 1 | | | | g | 1517-18 | 2 | |
| | | 2045-53 | 2 | | | | b | 1519 | 2 | |
| | | 2108-25 | 2 | | | | G | 1628-29 | 2 | |
| | | 2133-44 | 2 | | | | g | 1630 | 1 | |
| | | 2200-2215 | 2 | | | | g | 1631 | 1- | |
| | | 2222-45 | 1- | | | | g | 1632 | 1 | |
| | | 2245-2308 | 2 | | | | g | 1635 | 1 | |
| | | 2308-2342 | 1 | | | | g | 1638-39 | 3 | |
| | | | | | | | g | 1641 | 2 | 1638 U burst |
| | | | | | | | g | 1642 | 1 | |
| | | | | | | | b | 1644 | 2 | |
| | | | | | | | b | 1719 | 1 | |
| | | | | | | | b | 1814 | 1 | |
| | | | | | | | g | 1833 | 1 | |
| | | | | | | | g | 1834 | 3 | |
| | | | | | | | b | 1855 | 1- | |
| | | | | | | | b | 1856 | 1 | |
| | | | | | | | g | 1921 | 1 | |
| | | | | | | | b | 1927 | 1- | |
| | | | | | | | g | 1929-30 | 1- | |
| | | | | | | | g | 1956 | 1 | |
| | | | | | | | b | 2003 | 1 | |
| | | | | | | | g | 2004 | 3 | |
| | | | | | | | g | 2017-18 | 1- | |
| | | | | | | | g | 2022 | 1 | |
| | | | | | | | g | 2025 | 1 | |
| | | | | | | | g | 2149-50 | 1 | |
| | | | | | | | g | 2151 | 1 | |
| | | | | | | | g | 2215 | 3 | |
| | | | | | | | b | 2220 | 1- | |
| | | | | | | | G | 2240-41 | 3 | |
| | | | | | | | g | 2309 | 1 | |
| | | | | | | | b | 2311 | 2 | |
| May 8 | Cont. | 2248-49 | 3 | Uncl. | 1417 | 2 | b | 0143 | 2 | |
| 0000-0130 | Cont. | 2256-2300 | 3 | II | 2259-2319 | 3 | b | 1247 | 2 | Frequency range |
| 1243-2400 | | 0018 | 2 | | | | b | 1303 | 1- | 50-330 Mc/s |
| | | 0023-30 | 2 | | | | b | 1327 | 1- | |
| | | 0041 | 1 | | | | b | 1330 | 1- | |
| | | 0114-0142 | 1 | | | | g | 1340-41 | 1 | |
| | | 1346-1419 | 1- | | | | g | 1509 | 3 | |
| | | 1420-45 | 1 | | | | b | 1541 | 1 | |
| | | 2025-43 | 1- | | | | g | 1542 | 2 | |
| | | 2050-2129 | | | | | b | 1638 | 1 | |
| | | 2129-2217 | 1 | | | | b | 1656 | 2 | |
| | | 2217-2311 | 2 | | | | b | 1802 | 1 | |
| | | 2321-2400 | 1 | | | | g | 1828 | 1 | |
| | | | | | | | b | 1843 | 1 | |
| | | | | | | | g | 1846 | 1- | |
| | | | | | | | g | 1903 | 1- | |
| | | | | | | | b | 1905 | 1- | |
| | | | | | | | b | 1911 | 2 | |
| | | | | | | | b | 1913 | 1- | |
| | | | | | | | b | 1918 | 1 | |
| | | | | | | | b | 1923 | 1 | |
| | | | | | | | g | 1927 | 1 | |
| | | | | | | | g | 1928-29 | 2 | |
| | | | | | | | b | 1973 | 1 | |
| | | | | | | | b | 1943 | 1 | |
| | | | | | | | g | 1944 | 1 | |
| | | | | | | | g | 1947 | 1- | |
| | | | | | | | b | 1949 | 1- | |
| | | | | | | | b | 1952 | 1- | |
| | | | | | | | g | 1957 | 1 | |
| | | | | | | | g | 2000-02 | 2 | |
| | | | | | | | g | 2000 | 3 | |
| | | | | | | | g | 1914 | 1- | |
| | | | | | | | b | 2024 | 1 | |
| | | | | | | | b | 2037 | 1 | |
| | | | | | | | g | 2040 | 2 | |
| | | | | | | | g | 2041 | 1 | |
| | | | | | | | b | 2045 | 1- | |
| | | | | | | | g | 2052 | 2- | |
| | | | | | | | g | 2053 | 1- | |
| | | | | | | | b | 2055 | 1- | |
| | | | | | | | g | 2056-57 | 1- | |
| | | | | | | | b | 2103 | 2 | |
| | | | | | | | b | 2119 | 1 | |
| | | | | | | | b | 2126 | 1- | |

# SOLAR RADIO EMISSION
## SPECTRUM OBSERVATIONS

MAY 1959

**Fort Davis** 25-580 Mc.

| Date and Observing Times (U.T.) 1959 | Type I (Noise Storms and Continuum) | | | Type II (Slow Drift Bursts) Unclassified | | | Type III (Fast Drift Bursts) | | | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|
| | Bursts* or Continuum | Time | Int | II or Unclass | Time | Int | Act | Time | Int | |
| | | | | | | | g | 2129 | 2 | |
| | | | | | | | b | 2130 | 1 | |
| | | | | | | | g | 2145 | 1 | |
| | | | | | | | b | 2154 | 1- | |
| | | | | | | | b | 2155 | 2 | |
| | | | | | | | b | 2201 | 2 | |
| | | | | | | | b | 2225 | 1 | |
| | | | | | | | g | 2227 | 1- | |
| | | | | | | | g | 2240 | 1 | |
| | | | | | | | G | 2248-49 | 3 | |
| | | | | | | | C | 2255 | 3 | |
| | | | | | | | C | 2346-47 | 3 | |
| | | | | | | | g | 2350 | 2 | |
| | | | | | | | g | 2351 | 1 | |
| | | | | | | | g | 2358 | 1 | |
| May 9 | | | | | | | g | 1307-08 | 2 | Frequency range |
| 0000-0130 | Cont. | 1312-13 | 2 | | | | g | 1312-13 | 2 | 50-330 Mc/s |
| 1243-2245 | Cont. | 1339 | 2 | | | | g | 1320 | 3 | |
| | Cont. | 1538-39 | 3 | | | | C | 1321-22 | 2 | |
| | Cont. | 2050-51 | 2 | | | | g | 1323 | 1 | |
| | | 0000-0125 | 1 | | | | b | 1328 | 1 | |
| | | 1243-1316 | 1- | | | | g | 1329 | 1 | |
| | | 1316-1359 | 1 | | | | g | 1335-36 | 2 | |
| | | 1359-1456 | 2 | | | | g | 1338 | 1 | |
| | | 1456-1903 | 1 | | | | g | 1338-39 | 2 | |
| | | 1925-2141 | 1- | | | | b | 1336 | 2 | |
| | | 2141-43 | 2 | | | | g | 1337 | 2 | |
| | | 2143-2201 | 1 | | | | g | 1438-39 | 2 | |
| | Cont. | 2155-2245 | 1 | | | | C | 1443-45 | 2 | |
| | | 2201-2245 | 2 | | | | b | 1446 | 1 | |
| | | | | | | | G | 1518 | 3 | |
| | | | | | | | g | 1519 | 3 | |
| | | | | | | | b | 1535 | 1- | |
| | | | | | | | g | 1538 | 3 | |
| | | | | | | | g | 1553 | 3 | |
| | | | | | | | b | 1558 | 1 | |
| | | | | | | | b | 1559 | 1- | |
| | | | | | | | b | 1611 | 1 | |
| | | | | | | | g | 1620 | 3 | |
| | | | | | | | b | 1622 | 3 | |
| | | | | | | | g | 1626 | 1 | |
| | | | | | | | g | 1628 | 1 | |
| | | | | | | | b | 1629 | 1 | |
| | | | | | | | b | 1641 | 1 | |
| | | | | | | | b | 1642 | 1 | |
| | | | | | | | g | 1703 | 3 | |
| | | | | | | | g | 1710-11 | 3 | |
| | | | | | | | G | 1715-16 | 2 | |
| | | | | | | | G | 1717-18 | 3 | |
| | | | | | | | b | 1719 | 1 | |
| | | | | | | | g | 1720 | 3 | |
| | | | | | | | g | 1724 | 3 | |
| | | | | | | | g | 1727 | 2 | |
| | | | | | | | b | 1732 | 1- | |
| | | | | | | | G | 1733 | 3 | |
| | | | | | | | b | 1754 | 2 | |
| | | | | | | | g | 1755 | 1 | |
| | | | | | | | g | 1808-09 | 1 | |
| | | | | | | | g | 1811 | 1- | |
| | | | | | | | b | 1814 | 1- | |
| | | | | | | | g | 1815-16 | 2 | |
| | | | | | | | b | 1818 | 2 | |
| | | | | | | | b | 1819 | 2 | |
| | | | | | | | g | 1821 | 1 | |
| | | | | | | | g | 1822 | 1 | |
| | | | | | | | b | 1823 | 1 | |
| | | | | | | | g | 1825-26 | 2 | |
| | | | | | | | g | 1902-03 | 2 | |
| | | | | | | | g | 1919-2000 | 1 | |
| | | | | | | | b | 2044 | 2 | |
| | | | | | | | b | 2044 | 1 | |
| | | | | | | | g | 2045 | 1 | |
| | | | | | | | g | 2045 | 1 | |
| | | | | | | | g | 2050 | 2 | |
| | | | | | | | b | 2120 | 1 | |
| | | | | | | | b | 2139 | 2 | |
| | | | | | | | b | 2141 | 1 | |
| | | | | | | | g | 2158-59 | 1 | |
| | | | | | | | g | 2202-03 | 2 | |
| | | | | | | | b | 2205 | 1- | |
| | | | | | | | b | 2207 | 1 | |
| | | | | | | | b | 2209 | 1 | |
| | | | | | | | b | 2210 | 1- | |
| | | | | | | | b | 2212 | 1 | |
| | | | | | | | g | 2215-16 | 2 | |
| | | | | | | | G | 2217-20 | 2 | |
| | | | | | | | g | 2212-21 | 1- | |
| | | | | | | | g | 2234-35 | 2 | |

# SOLAR RADIO EMISSION
# SPECTRUM OBSERVATIONS

MAY 1959

Fort Davis

25 -580 Mc.

| Date and Observing Times (U.T.) 1959 | Type I (Noise Storms and Continuum) | | | Type II (Slow Drift Bursts) Unclassified | | | Type III (Fast Drift Bursts) | | | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|
| | Bursts* or Continuum | Time | Int | II or Unclass | Time | Int | Act | Time | Int | |
| May 10 | Cont. | 1404 | 3 | Uncl. | 1403 | 3 | g | 1318 | 3 | Full frequency range |
| 1256-2400 | Cont. | 1433-34 | 3 | II | 2123-2141 | 3+ | g | 1328 | 2 | resumed |
| | Cont. | 1922-23 | 3 | Uncl. | 2253-58 | 3 | b | 1358 | 2 | |
| | Cont. | 2038-40 | 3 | | | | g | 1404-05 | 2 | |
| | Cont.(IV) | 2116-2336 | 3 | | | | g | 1409 | 1 | |
| | Cont.(IV) | 2336 → | 2 | | | | b | 1425 | 2 | |
| | | 1257-1342 | 2 | | | | g | 1433 | 3 | |
| | | 1343-1413 | 1 | | | | g | 1435 | 2 | |
| | | 1414-1523 | 2 | | | | g | 1436 | 2 | |
| | | 1528-2222 | 1 | | | | b | 1445 | 3 | 2253-58 unclassified |
| | | 2248-2400 | 2 | | | | b | 1446 | 3 | burst has some |
| | | | | | | | g | 1512 | 1- | features of a slow |
| | | | | | | | b | 1556 | 1- | drift burst. |
| | | | | | | | g | 1617 | 3 | |
| | | | | | | | G | 1618 | 3 | |
| | | | | | | | g | 1658 | 3 | |
| | | | | | | | b | 1724 | 2 | |
| | | | | | | | b | 1735 | 1 | |
| | | | | | | | b | 1736 | 1 | |
| | | | | | | | g | 1742 | 3 | |
| | | | | | | | b | 1754 | 1 | |
| | | | | | | | g | 1756 | 2 | |
| | | | | | | | b | 1817 | 2 | |
| | | | | | | | g | 1820-21 | 3 | |
| | | | | | | | g | 1821 | 3 | |
| | | | | | | | b | 1826 | 3 | |
| | | | | | | | g | 1836 | 2 | |
| | | | | | | | g | 1848 | 2 | |
| | | | | | | | b | 1850 | 2 | |
| | | | | | | | b | 1903 | 2 | |
| | | | | | | | g | 1904 | 2 | |
| | | | | | | | g | 1905 | 2 | |
| | | | | | | | b | 1907 | 2 | |
| | | | | | | | g | 1908 | 2 | |
| | | | | | | | b | 1909 | 2 | |
| | | | | | | | g | 1910 | 3 | |
| | | | | | | | G | 1914-15 | 3 | |
| | | | | | | | b | 1919 | 2 | |
| | | | | | | | b | 1920 | 1 | |
| | | | | | | | g | 1922 | 3 | |
| | | | | | | | g | 1924 | 2 | |
| | | | | | | | b | 1925 | 3 | |
| | | | | | | | b | 1926 | 2 | |
| | | | | | | | b | 1939 | 2 | |
| | | | | | | | g | 2001-02 | 2 | |
| | | | | | | | g | 2009-10 | 2 | |
| | | | | | | | b | 2014 | 1 | |
| | | | | | | | g | 2016-17 | 3 | |
| | | | | | | | g | 2023 | 2 | |
| | | | | | | | g | 2026 | 2 | |
| | | | | | | | g | 2027 | 2 | |
| | | | | | | | g | 2028 | 2 | |
| | | | | | | | b | 2033 | 1 | |
| | | | | | | | g | 2034 | 2 | |
| | | | | | | | g | 2038-40 | 2 | |
| | | | | | | | g | 2059 | 2 | |
| | | | | | | | g | 2104-05 | 2 | |
| | | | | | | | b | 2107 | 1 | |
| | | | | | | | g | 2108 | 2 | |
| | | | | | | | g | 2111 | 2 | |
| | | | | | | | b | 2114 | 1 | |
| | | | | | | | g | 2116-17 | 3 | |
| | | | | | | | g | 2121-22 | 2 | |
| | | | | | | | g | 2124-25 | 2 | |
| | | | | | | | g | 2143 | 2 | |
| | | | | | | | b | 2150 | 1 | |
| | | | | | | | b | 2157 | 2 | |
| | | | | | | | b | 2204 | 1 | |
| May 11 | Cont. (IV) ← | 0130 | 2 | II. | 2020-2039 | 3+ | b | 1246 | 2 | |
| 0000-0130 | Cont. | 2028-2046 | 3 | | | | g | 1344 | 2 | |
| 1243-2400 | Cont. | 2056-58 | 3 | | | | b | 1543 | 1 | |
| | | 0000-0130 | 2 | | | | b | 1552 | 1 | |
| | | 1243-1839 | 2 | | | | g | 1552 | 2 | |
| | | 1843-2143 | 1 | | | | b | 1648 | 1- | |
| | | 2200-2310 | 1 | | | | b | 1733 | 1 | |
| | | | | | | | b | 1741 | 1 | |
| | | | | | | | b | 1813 | 1 | |
| | | | | | | | b | 1843 | 2 | |
| | | | | | | | b | 1847 | 2 | |
| | | | | | | | b | 1908 | 2 | |
| | | | | | | | b | 2016 | 1 | |
| | | | | | | | b | 2020 | 1 | |
| | | | | | | | b | 2053 | 1 | |
| | | | | | | | g | 2054 | 1 | |
| | | | | | | | g | 2106 | 3 | |
| | | | | | | | g | 2108 | 2 | |
| | | | | | | | g | 2109 | 3 | |
| | | | | | | | g | 2112 | 2 | |
| | | | | | | | g | 2114 | 2 | |
| | | | | | | | G | 2115-16 | 2 | |
| | | | | | | | g | 2117-18 | 1 | |

# SOLAR RADIO EMISSION
# SPECTRUM OBSERVATIONS

MAY 1959

Fort Davis

25-580 Mc.

| Date and Observing Times (U.T.) 1959 | Type I (Noise Storms and Continuum) | | | Type II (Slow Drift Bursts) Unclassified | | | Type III (Fast Drift Bursts) | | | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|
| | Bursts* or Continuum | Time | Int | II or Unclass | Time | Int | Act | Time | Int | |
| | | | | | | | b | 2128 | 1 | |
| | | | | | | | b | 2131 | 1- | |
| | | | | | | | g | 2334 | 2 | |
| May 12 | Cont. | 2021-22 | 2 | | | | g | 0006 | 2 | |
| 0000-0135 | | 0004-0017 | 2 | | | | b | 0032 | 1 | |
| 1243-2400 | | 0018-0126 | 1 | | | | b | 1308 | 2 | |
| | | 1243-1743 | 1 | | | | g | 1527 | 1- | |
| | | 1743-1817 | 1- | | | | g | 1546 | 1- | |
| | | 1833-2111 | 1 | | | | b | 1556 | 1 | |
| | | 2111-2129 | 2 | | | | b | 1657 | 1 | |
| | | 2129-2236 | 1 | | | | b | 1700 | 1- | |
| | | 2236 ⟶ | 1- | | | | b | 1701 | 1 | |
| | | | | | | | g | 1702 | 1 | |
| | | | | | | | g | 1705 | 3 | |
| | | | | | | | b | 1814 | 1- | |
| | | | | | | | b | 1839 | 1- | |
| | | | | | | | b | 1851 | 1- | |
| | | | | | | | b | 1852 | 1 | |
| | | | | | | | b | 1855 | 1- | |
| | | | | | | | b | 1857 | 1 | |
| | | | | | | | b | 1859 | 1- | |
| | | | | | | | b | 1905 | 1 | |
| | | | | | | | g | 1907 | 2 | |
| | | | | | | | g | 1911 | 2 | |
| | | | | | | | b | 1912 | 1 | |
| | | | | | | | b | 1913 | 1 | |
| | | | | | | | g | 1919 | 2 | |
| | | | | | | | b | 1920 | 2 | |
| | | | | | | | g | 1937 | 1 | |
| | | | | | | | b | 1952 | 1- | |
| | | | | | | | b | 1957 | 1 | |
| | | | | | | | G | 2015-17 | 1 | |
| | | | | | | | g | 2018 | 1 | |
| | | | | | | | b | 2020 | 1- | |
| | | | | | | | g | 2022 | 1 | |
| | | | | | | | b | 2051 | 1- | |
| | | | | | | | g | 2052 | 2 | |
| | | | | | | | b | 2110 | 1 | |
| May 13 | Cont. | 1732-35 | 2 | II. | 1425-1430 | 3 | g | 0019 | 1- | 1732-35 cont. also |
| 0000-0135 | Cont. | 1740-42 | 1 | Uncl. | 2342-44 | 2 | b | 0029 | 1- | has fast draft burst |
| 1243-2400 | Cont. | 2142-45 | 3 | | | | g | 1417 | 1 | structure |
| | | 0001 -0127 | 1 | | | | g | 1629 | 1 | 2142-45 cont. also |
| | | 1248-1453 | 1 | | | | g | 1632 | 2 | has fast drift burst |
| | | 1500-1518 | 1- | | | | g | 1637-38 | 3 | structure |
| | | 1556-1627 | 3 | | | | g | 1657 | 2 | 2342-44 unclassified |
| | | 1627-35 | 2 | | | | b | 1718 | 1 | burst has some |
| | | 1636-1646 | 1 | | | | b | 1726 | 2 | characteristics of a |
| | | 1650-52 | 2 | | | | g | 1732 | 1 | slow drift burst |
| | | 1653-1742 | 1 | | | | g | 1741 | 1 | |
| | | 1752-1824 | 1- | | | | b | 1750 | 1 | |
| | | 1830-32 | 2 | | | | g | 1752 | 1 | |
| | | 1845-1955 | 1 | | | | b | 1815 | 1 | |
| | | 2207 | 1 | | | | g | 1822-23 | 2 | |
| | | 2341 | 2 | | | | b | 1854 | 1- | |
| | | | | | | | b | 1858 | 1- | |
| | | | | | | | b | 1909 | 1 | |
| | | | | | | | b | 2043 | 1 | |
| | | | | | | | b | 2142 | 2 | |
| | | | | | | | g | 2144-45 | 2 | |
| May 14 | | 0013-0021 | 1- | | | | b | 0019 | 2 | |
| 0000-0135 | | 0102-0127 | 1 | | | | g | 0058 | 3 | |
| 1243-2400 | | 1426 | 1 | | | | g | 1338 | 3 | |
| | | 1455-1506 | 1 | | | | g | 1339 | 2 | |
| | | 1759 | 1 | | | | G | 1340-41 | 3 | |
| | | 2137-40 | 1 | | | | g | 1343 | 1 | |
| | | 2352 | 2 | | | | g | 1433 | 2 | |
| | | | | | | | g | 1434 | 1 | |
| | | | | | | | g | 1455 | 1 | |
| | | | | | | | g | 1505 | 2 | |
| | | | | | | | g | 1506 | 1- | |
| | | | | | | | b | 1731 | 1 | |
| | | | | | | | C | 2125-26 | 3 | |
| | | | | | | | g | 2128 | 2 | |
| | | | | | | | b | 2140 | 1- | |
| | | | | | | | g | 2157 | 1 | |
| | | | | | | | g | 2359 | 2 | |
| May 15 | | 0057 | 2 | | | | b | 1749 | 1- | |
| 0000-0140 | | 0117-0120 | 2 | | | | g | 1750 | 2 | |
| 1243-2400 | | 1235 | 1 | | | | g | 2351 | 1- | |
| | | 1313 | 1 | | | | | | | |
| | | 1411 | 1 | | | | | | | |
| | | 1443 | 1- | | | | | | | |
| | | 1638 | 1 | | | | | | | |
| | | 1710-11 | 1- | | | | | | | |
| | | 1745 | 1- | | | | | | | |
| | | 1830 | 2 | | | | | | | |

# SOLAR RADIO EMISSION
# SPECTRUM OBSERVATIONS

MAY 1959

Fort Davis

25-580 Mc.

| Date and Observing Times (U.T.) 1959 | Type I (Noise Storms and Continuum) | | | Type II (Slow Drift Bursts) Unclassified | | | Type III (Fast Drift Bursts) | | | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|
| | Bursts* or Continuum | Time | Int | II or Unclass | Time | Int | Act | Time | Int | |
| May 16 | | 0027 | 1- | | | | b | 1649 | 2 | |
| 0000-0140 | | 1304-36 | 1 | | | | G | 1655-56 | 2 | |
| 1242-2400 | | 1343-1410 | 1- | | | | g | 2003 | 1 | |
| | | 1424 | 2 | | | | b | 2115 | 1 | |
| | | 1438-44 | 1- | | | | g | 2251 | 1- | |
| | | 1545-52 | 1- | | | | G | 2252-53 | 3 | |
| | | 1605 | 1 | | | | g | 2256 | 3 | |
| | | 1655-56 | 2 | | | | | | | |
| | | 1707-32 | 1- | | | | | | | |
| | | 1751-1806 | 1- | | | | | | | |
| | | 2256 | 1 | | | | | | | |
| May 17 | | 0004-05 | 3 | | | | b | 0004 | 3 | |
| 0000-0140 | | 1743-46 | 2 | | | | b | 0013 | 1- | |
| 1240-2400 | | 1944-49 | 1 | | | | b | 0100 | 1 | |
| | | 2238-44 | 2 | | | | b | 0116 | 1 | |
| | | | | | | | b | 1315 | 1- | |
| | | | | | | | g | 1614-15 | 1 | |
| | | | | | | | g | 1617-18 | 1 | |
| | | | | | | | b | 1926 | 1- | |
| | | | | | | | b | 1927 | 1 | |
| | | | | | | | g | 2012 | 2 | |
| | | | | | | | g | 2015 | 2 | |
| | | | | | | | g | 2137 | 2 | |
| | | | | | | | g | 2236 | 2 | |
| | | | | | | | g | 2237 | 1 | |
| | | | | | | | b | 2238 | 1 | |
| | | | | | | | b | 2239 | 2 | |
| | | | | | | | g | 2240-41 | 2 | |
| | | | | | | | g | 2242 | 2 | |
| May 18 | | 1843-52 | 1- | | | | b | 1708 | 2 | |
| 0000-0135 | | | | | | | g | 1748-49 | 2 | |
| 1240-2400 | | | | | | | b | 1750 | 1 | |
| | | | | | | | b | 1803 | 1- | |
| | | | | | | | g | 1851 | 1 | |
| | | | | | | | g | 1931 | 2 | |
| | | | | | | | g | 1943 | 1 | |
| | | | | | | | g | 1959 | 2 | |
| May 19 | | 0102 | 1 | II. | 1344-1353 | 3 | g | 1339 | 2 | 1339 two g bursts |
| 0000-0135 | | 1338-40 | 1 | | | | g | 1647-48 | 1 | |
| 1240-2400 | | 1647-48 | 1 | | | | g | 2001 | 3 | |
| | | 1850-51 | 1 | | | | | | | |
| | | 2142 | 2 | | | | | | | |
| May 20 | | 1846 | 1- | | | | g | 1507 | 2 | |
| 0000-0135 | | | | | | | b | 1524 | 1 | |
| 1240-2400 | | | | | | | G | 1615-17 | 1 | |
| | | | | | | | b | 1657 | 1- | |
| | | | | | | | g | 1732 | 1 | |
| | | | | | | | b | 1733 | 3 | |
| | | | | | | | g | 2017 | 1- | |
| | | | | | | | b | 2033 | 1- | |
| | | | | | | | b | 2042 | 2 | |
| | | | | | | | b | 2232 | 1- | |
| May 21 | | 1524-26 | 1 | | | | g | 1403 | 2 | |
| 0000-0140 | | 1628-30 | 1 | | | | b | 1431 | 2 | |
| 1230-2400 | | 2256-57 | 1- | | | | g | 1623 | 2 | |
| | | | | | | | g | 1627 | 2 | |
| | | | | | | | g | 1809 | 2 | |
| | | | | | | | g | 2233 | 1- | |
| | | | | | | | b | 2234 | 2 | |
| | | | | | | | g | 2235 | 1 | |
| | | | | | | | b | 2259 | 1- | |
| May 22 | | 0003-04 | 1 | | | | b | 0003 | 1- | |
| 0000-0140 | | 0011-19 | 1 | | | | g | 0011 | 1 | |
| 1230-2400 | | 1355-56 | 1 | | | | g | 0021 | 2 | |
| | | 1413-17 | 1- | | | | | | | |
| | | 1438-41 | 1 | | | | | | | |
| May 23 | | 1233-1304 | 1 | II. | 0102-0114 | 3 | G | 0056-59 | 2 | |
| 0000-0115 | | 1345-1411 | 1 | | | | b | 1252 | 3 | |
| 1230-2400 | | 1446 | 1 | | | | b | 1253 | 1- | |
| | | 1504-05 | 1 | | | | b | 1428 | 1 | |
| | | 1616-1701 | 1- | | | | b | 1553 | 1 | |
| | | 1701-08 | 2 | | | | g | 1743-44 | 1 | |
| | | 1708-36 | 1 | | | | g | 1745 | 2 | |
| | | 1736 | 2 | | | | g | 2144 | 2 | |
| | | 1737-1950 | 1 | | | | | | | |
| | | 1950-2080 | 2 | | | | | | | |
| | | 2023 → | 1 | | | | | | | |
| May 24 | | ← 0134 | 1 | | | | g | 1656 | 1 | |
| 0000-0140 | | 1230-1325 | 3 | | | | g | 1906 | 2 | |
| 1230-2400 | | 1325-46 | 2 | | | | g | 1909 | 2 | |
| | | 1347-1559 | 1 | | | | | | | |
| | | 1707-1923 | 1- | | | | | | | |
| | | 2014-24 | 1- | | | | | | | |
| | | 2113-2349 | 1- | | | | | | | |
| | | 2349 → | 2 | | | | | | | |

# SOLAR RADIO EMISSION
# SPECTRUM OBSERVATIONS

MAY 1959

## Fort Davis

25-580 Mc.

| Date and Observing Times (U.T.) 1959 | Type I (Noise Storms and Continuum) | | | Type II (Slow Drift Bursts) Unclassified | | | Type III (Fast Drift Bursts) | | | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|
| | Bursts* or Continuum | Time | Int | II or Unclass | Time | Int | Act | Time | Int | |
| May 25 | | 0013 | 2 | | | | g | 1233 | 1 | |
| 0000-0135 | | 0013-0134 | 1 | | | | b | 1817 | 1- | |
| 1230-2400 | | 1418-43 | 1- | | | | b | 1818 | 1- | |
| | | 1625-38 | 1- | | | | g | 2310 | 2 | |
| | | 1731-59 | 1- | | | | | | | |
| | | 1942-2128 | 1 | | | | | | | |
| | | 2242 | 1 | | | | | | | |
| | | 2303-18 | 2 | | | | | | | |
| | | 2318 → | 1 | | | | | | | |
| May 26 | | ← 0111 | 1- | | | | b | 0004 | 1- | |
| 0000-0140 | | 1233-1405 | 1- | | | | g | 1710-11 | 1 | |
| 1230-2400 | | 1405-06 | 3 | | | | b | 1906 | 1- | |
| | | 1406-40 | 2 | | | | b | 1907 | 1 | |
| | | 1440-1502 | 1 | | | | b | 1918 | 1- | |
| | | 1503-08 | 2 | | | | b | 2108 | 1 | |
| | | 1510-2016 | 1 | | | | b | 2136 | 1 | |
| | | 2016-2129 | 2 | | | | b | 2137 | 1 | |
| | | 2130-2320 | 1 | | | | b | 2352 | 3 | |
| May 27 | Cont. | 1601-02 | 2 | Uncl. | 0006 | 2 | g | 1600-01 | 2 | |
| 0000-0140 | | 0021-0116 | 1- | | | | g | 1606 | 1 | |
| 1230-2400 | | 1230-1317 | 3 | | | | g | 1842 | 1- | |
| | | 1317-1359 | 2 | | | | g | 1855 | 1 | |
| | | 1400-17 | 1 | | | | b | 1857 | 1- | |
| | | 1435-1539 | 1 | | | | g | 2143 | 2 | |
| | | 1539-1609 | 2 | | | | | | | |
| | | 1609-2116 | 1 | | | | | | | |
| | | 2143-46 | 1 | | | | | | | |
| | | 2347 | 1- | | | | | | | |
| May 28 | | 0004-49 | 1- | | | | g | 0115-16 | 1 | |
| 0000-0140 | | 0112 | 2 | | | | g | 0121 | 1- | |
| 1230-2400 | | 1232-1301 | 1- | | | | g | 1450 | 2 | |
| | | 1326 | 2 | | | | g | 1451 | 1 | |
| | | 1415-31 | 1 | | | | b | 1727 | 1- | |
| | | 1449-51 | 1 | | | | g | 1730 | 2 | |
| | | 1558 | 1 | | | | g | 1736 | 2 | |
| | | 1802 | 1- | | | | b | 1754 | 1 | |
| | | 1829-1959 | 1- | | | | g | 1826-27 | 3 | |
| | | 2103 | 1- | | | | b | 1828 | 3 | |
| | | 2254 → | 1- | | | | | | | |
| May 29 | Cont. | 2005 | 3 | Uncl. | 1648 | 3 | b | 1257 | 2 | |
| 0000-0140 | | ← 0133 | 1- | | | | b | 1352 | 1 | |
| 1230-2400 | | 1254 | 1- | | | | g | 1354 | 3 | |
| | | 1338-39 | 1 | | | | g | 1359 | 2 | |
| | | 1535-38 | 1 | | | | b | 1456 | 1- | |
| | | 1810-16 | 1- | | | | b | 1531 | 1- | |
| | | 1906 | 1 | | | | g | 1629-30 | 2 | |
| | | 2019-25 | 1 | | | | b | 1707 | 1- | |
| | | 2125-2217 | 1- | | | | b | 1709 | 1- | |
| | | 2318 → | 1- | | | | b | 1743 | 1- | |
| | | | | | | | g | 1753-54 | 2 | |
| | | | | | | | b | 1814 | 1- | |
| | | | | | | | g | 1844 | 1- | |
| | | | | | | | b | 1845 | 2 | |
| | | | | | | | g | 1846 | 2 | |
| | | | | | | | g | 1853 | 1- | |
| | | | | | | | b | 1858 | 2 | |
| | | | | | | | g | 1904 | 3 | |
| | | | | | | | G | 1909-11 | 2 | 1910 U burst |
| | | | | | | | g | 2005 | 3 | |
| | | | | | | | g | 2016-17 | 3 | |
| | | | | | | | g | 2019 | 3 | |
| | | | | | | | g | 2021 | 2 | |
| | | | | | | | g | 2022 | 2 | |
| | | | | | | | g | 2025 | 2 | |
| | | | | | | | g | 2211 | 1 | |
| | | | | | | | g | 2335-36 | 3 | |
| | | | | | | | g | 2339 | 2 | |
| | | | | | | | g | 2340 | 3 | |
| May 30 | Cont. | 1312-13 | 3 | Uncl. | 1357 | 1 | G | 0024-26 | 2 | |
| 0000-0140 | Cont. | 1843-44 | 3 | | | | g | 0027 | 1 | |
| 1230-2400 | Cont. | 1846-47 | 3 | | | | G | 0039 | 2 | |
| | Cont. | 2051-52 | 3 | | | | g | 0043 | 1 | |
| | | ← 0125 | 1- | | | | b | 0045 | 1 | |
| | | 1256-1329 | 1- | | | | g | 1312 | 3 | |
| | | 1411-26 | 1 | | | | b | 1614 | 2 | |
| | | 1503-34 | 1- | | | | b | 1801 | 1- | |
| | | 1559-1608 | 1- | | | | g | 1846 | 3 | |
| | | 1704-07 | 1- | | | | b | 1913 | 1 | |
| | | 1928-30 | 1- | | | | b | 1943 | 1- | |
| | | 2053 | 1- | | | | b | 1954 | 1- | |
| | | 2122 | 1- | | | | b | 2051 | 2 | |
| | | 2159-2201 | 1 | | | | b | 2153 | 1 | |
| | | 2326 → | 1- | | | | g | 2159 | 2 | |
| | | | | | | | g | 2200 | 2 | |
| | | | | | | | b | 2241 | 1 | |
| | | | | | | | g | 2243-44 | 1 | |

# SOLAR RADIO EMISSION
# SPECTRUM OBSERVATIONS

MAY – JUNE 1959

Fort Davis

25-580 Mc.

| Date and Observing Times (U.T.) 1959 | Type I (Noise Storms and Continuum) | | | Type II (Slow Drift Bursts) Unclassified | | | Type III (Fast Drift Bursts) | | | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|
| | Bursts* or Continuum | Time | Int | II or Unclass | Time | Int | Act | Time | Int | |
| May 31 | | 0025-42 | 1 | | | | b | 0023 | 1 | |
| 0000-0145 | | 0125-32 | 1 | | | | b | 1529 | 2 | |
| 1230-2400 | | 1234-1420 | 1- | | | | b | 1611 | 1 | |
| | | 1420-49 | 2 | | | | g | 1631 | 2 | |
| | | 1449-1601 | 1 | | | | b | 1849 | 1 | |
| | | 1649-1713 | 1 | | | | g | 1852 | 2 | |
| | | 1902-04 | 2 | | | | g | 1903 | 3 | |
| | | 1919-20 | 1 | | | | g | 1906 | 2 | |
| | | 2010-12 | 2 | | | | b | 1911 | 1- | |
| | | 2330-31 | 1 | | | | g | 1913 | 1- | |
| | | 2350 | 1 | | | | g | 2014 | 3 | 2014 two U bursts. |
| | | | | | | | g | 2015 | 1 | |
| | | | | | | | b | 2023 | 2 | |
| | | | | | | | g | 2321-22 | 1 | |
| June 1 | | 0022-38 | 1 | Uncl. | 1339 | 1 | b | 1255 | 2 | |
| 0000-0145 | | 0103-32 | 1- | | | | g | 1550 | 3 | |
| 1230-2400 | | 1238-59 | 1 | | | | b | 1551 | 2 | |
| | | 1341 | 1- | | | | b | 1553 | 1 | |
| | | 1452-1506 | 1- | | | | g | 1657 | 1- | |
| | | 1550 | 2 | | | | b | 1658 | 1- | |
| | | 1907 | 1- | | | | g | 1659 | 2 | |
| | | 2142-43 | 2 | | | | g | 1900 | 2 | |
| | | 2200-2340 | 1- | | | | g | 1930 | 3 | |
| | | | | | | | b | 1950 | 3 | |
| | | | | | | | b | 2050 | 2 | |
| | | | | | | | g | 2248 | 1- | |
| June 2 | | 0016-0136 | 1- | Uncl. | 2006-08 | 3 | b | 0101 | 1- | |
| 0000-0145 | | 1237-1355 | 1- | | | | g | 0133-34 | 2 | |
| 1230-2400 | | 1552-1622 | 1- | | | | b | 1510 | 2 | |
| | | 1829 | 1 | | | | g | 1729 | 1 | |
| | | 2100 | 1 | | | | g | 1746-47 | 1 | |
| | | | | | | | g | 1824-25 | 1 | |
| | | | | | | | g | 2001 | 1 | |
| | | | | | | | g | 2003 | 2 | |
| | | | | | | | g | 2046-49 | 1- | |
| | | | | | | | b | 2054 | 1- | |
| | | | | | | | b | 2114 | 2 | |
| | | | | | | | b | 2210 | 1- | |
| June 3 | | 1339-40 | 1- | | | | b | 1348 | 1- | |
| 0000-0130 | | 1531-1605 | 1 | | | | b | 1534 | 1 | |
| 1235-2400 | | 1625-49 | 1 | | | | g | 1541 | 2 | |
| | | 1807 | 1 | | | | b | 1542 | 1- | |
| | | 2044 | 1 | | | | g | 1745-46 | 3 | |
| | | 2118 | 1- | | | | g | 1747 | 1 | |
| | | 2208-12 | 1 | | | | g | 2012-13 | 2 | |
| | | | | | | | b | 2106 | 1- | |
| | | | | | | | b | 2144 | 2 | |
| | | | | | | | b | 2155 | 1 | |
| June 4 | | 1235-40 | 2 | | | | b | 1554 | 1 | |
| 0000-0145 | | 1240-1318 | 1 | | | | g | 1612 | 2 | |
| 1235-2400 | | 1318-30 | 2 | | | | b | 1709 | 1 | |
| | | 1330-1400 | 1 | | | | g | 1743 | 1 | |
| | | 1400-19 | 3 | | | | g | 1845 | 2 | |
| | | 1419-1502 | 2 | | | | b | 1851 | 1 | |
| | | 1502-1648 | 1 | | | | b | 1926 | 1- | |
| | | 1649-1702 | 2 | | | | g | 2035 | 2 | |
| | | 1702-1738 | 1 | | | | | | | |
| | | 1739-46 | 2 | | | | | | | |
| | | 1747-1837 | 1 | | | | | | | |
| | | 1903-55 | 1 | | | | | | | |
| | | 1955-2001 | 3 | | | | | | | |
| | | 2001-59 | 1 | | | | | | | |
| | | 2258-59 | 1 | | | | | | | |
| June 5 | | 1403-07 | 1 | | | | b | 0026 | 3 | |
| 0000-0145 | | 1637 | 2 | | | | b | 0027 | 1 | |
| 1235-2400 | | 1747-50 | 2 | | | | g | 0031 | 1- | |
| | | 2116-29 | 1 | | | | g | 0033 | 1 | |
| | | 2311-12 | 1 | | | | b | 0039 | 1 | |
| | | | | | | | g | 0117 | 2 | |
| | | | | | | | g | 0133 | 3 | |
| | | | | | | | b | 1505 | 1 | |
| | | | | | | | g | 1637-40 | 3 | |
| | | | | | | | b | 1649 | 1 | |
| | | | | | | | b | 1728 | 2 | |
| | | | | | | | b | 1739 | 3 | |
| | | | | | | | G | 1747-50 | 2 | 1739 U burst with |
| | | | | | | | b | 1801 | 1 | harmonics |
| | | | | | | | g | 1949 | 1- | |
| June 6 | | 0014-19 | 1- | Uncl. | 2259 | 1 | b | 1248 | 1 | |
| 0000-0145 | | 0127-37 | 1- | | | | b | 1545 | 2 | |
| 1235-2400 | | 1316-17 | 1 | | | | b | 1601 | 1- | |
| | | 1720 | 1 | | | | b | 1606 | 1 | |
| | | 1905 | 1 | | | | b | 1654 | 1 | |
| | | | | | | | b | 1719 | 1 | |
| | | | | | | | b | 1808 | 1- | |

# SOLAR RADIO EMISSION SPECTRUM OBSERVATIONS

JUNE 1959

**Fort Davis** 25-580 Mc

| Date and Observing Times (U.T.) 1959 | Type I (Noise Storms and Continuum) | | | Type II (Slow Drift Bursts) Unclassified | | | Type III (Fast Drift Bursts) | | | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|
| | Bursts* or Continuum | Time | Int | II or Unclass | Time | Int | Act | Time | Int | |
| | | | | | | | g | 1835 | 2 | |
| | | | | | | | b | 1843 | 2 | |
| | | | | | | | b | 2131 | 2 | |
| | | | | | | | b | 2215 | 1 | |
| June 7 | Cont. | 1647-48 | 2 | Uncl. | 2236 | 3 | b | 1241 | 1 | |
| 0000-0145 | Cont. | 1719 | 2 | | | | g | 1529 | 1 | |
| 1235-2400 | Cont. | 1721 | 3 | | | | b | 1535 | 2 | |
| | | 0127-37 | 1- | | | | g | 1539 | 2 | |
| | | 1408-14 | 1 | | | | g | 1615-16 | 3 | |
| | | 1646-1704 | 1 | | | | g | 1647 | 2 | |
| | | 1815-16 | 2 | | | | g | 1648 | 2 | |
| | | 1913-15 | 1 | | | | g | 1718 | 1 | |
| | | 1941-57 | 1 | | | | b | 1720 | 3 | |
| | | 2041-2148 | 1 | | | | g | 1721-22 | 3 | |
| | | 2220 | 1- | | | | g | 1737 | 2 | |
| | | 2237 | 3 | | | | g | 1738 -39 | 2 | |
| | | 2323 | 1 | | | | g | 1755-56 | 3 | |
| | | 2358-59 | 1- | | | | g | 1759-1800 | 3 | |
| | | | | | | | b | 1802 | 2 | |
| | | | | | | | g | 1815 | 2 | |
| | | | | | | | g | 1821 | 3 | |
| | | | | | | | g | 1823 | 2 | |
| | | | | | | | g | 2247 | 1 | |
| June 8 | | 0024 | 1- | | | | b | 1519 | 1- | |
| 0000-0145 | | 0039-0102 | 1 | | | | | | | |
| 1235-2400 | | 0102-0116 | 2 | | | | | | | |
| | | 0116-0137 | 1 | | | | | | | |
| | | 1321-1414 | 1- | | | | | | | |
| | | 1441-42 | 2 | | | | | | | |
| | | 1452 → | 1- | | | | | | | |
| June 9 | Cont. | 1714-1800 | 2 | Uncl. | 1535-36 | 2 | b | 0033 | 1- | |
| 0000-0145 | | ← 0127 | 1- | | | | g | 1529-30 | 1 | |
| 1230-2400 | | 1234-59 | 1- | | | | b | 1622 | 1 | |
| | | 1259-1300 | 2 | | | | b | 1647 | 3 | |
| | | 1302-1415 | 1 | | | | G | 1651-52 | 1 | |
| | | 1415-1900 | 1- | | | | g | 1653 | 2 | |
| | | 2000-02 | 1- | | | | b | 1706 | 2 | |
| | | 2047 | 1- | | | | g | 1841 | 3 | |
| | | 2107 | 1- | | | | g | 2129-30 | 2 | |
| | | 2123 | 1- | | | | | | | |
| | | 2232 | 1- | | | | | | | |
| | | 2309-12 | 1 | | | | | | | |
| June 10 | Cont. | 1927-31 | 3 | Uncl. | 1753 | 3 | b | 0059 | 2 | |
| 0000-0145 | Cont. | 2056-57 | 3 | Uncl. | 2139 | 1 | g | 1257 | 2 | |
| 1230-2400 | | 1257 | 2 | | | | g | 1347 | 2 | |
| | | 1313 | 1 | | | | g | 1451 | 1 | |
| | | 1335 | 1 | | | | g | 1452 | 1 | |
| | | 1400-1506 | 1- | | | | g | 1501 | 2 | |
| | | 1528-36 | 1- | | | | g | 1523 | 2 | |
| | | 1556-1619 | 1- | | | | g | 1713-14 | 3 | |
| | | 1725 | 1 | | | | b | 1747 | 2 | 1757 U burst |
| | | 1750-1801 | 1 | | | | g | 1756-57 | 3 | |
| | | 1803-1937 | 1- | | | | g | 1800-01 | 1 | |
| | | 1938-2013 | 1 | | | | | | | |
| | | 2019-2115 | 1- | | | | | | | |
| | | 2115-2201 | 1 | | | | b | 1811 | 1 | |
| | | 2201 → | 1- | | | | G | 1926-28 | 3 | |
| | | | | | | | b | 2000 | 2 | 1928 U burst |
| | | | | | | | b | 2016 | 1 | 2031 U burst |
| | | | | | | | g | 2030-31 | 2 | |
| | | | | | | | b | 2054 | 1- | |
| | | | | | | | g | 2056 | 3 | |
| | | | | | | | g | 2058 | 3 | |
| | | | | | | | g | 2117 | 2 | |
| | | | | | | | b | 2119 | 1 | |
| | | | | | | | b | 2145 | 2 | |
| | | | | | | | g | 2146-47 | 2 | |
| | | | | | | | g | 2148 | 2 | |
| | | | | | | | g | 2149 | 2 | |
| | | | | | | | g | 2247 | 2 | |
| | | | | | | | g | 2254 | 1 | |
| | | | | | | | g | 2256 | 2 | |
| | | | | | | | g | 2355 | 2 | |
| June 11 | Cont. | 0120-21 | 3 | | | | b | 0042 | 1- | |
| 0000-0145 | Cont. | 1416 | 2 | | | | g | 0120 | 3 | |
| 1230-2110 | Cont. | 1523 | 2 | | | | C | 0122 | 3 | |
| | Cont. | 1736 | 3 | | | | b | 0139 | 2 | |
| | Cont. | 1738 | 3 | | | | g | 1323 | 1 | |
| | | ← 0048 | 1- | | | | b | 1324 | 2 | |
| | | 0128-42 | 1- | | | | g | 1401 | 1 | |
| | | 1323-24 | 2 | | | | g | 1416 | 2 | |
| | | 1401 | 1 | | | | b | 1432 | 3 | |
| | | 1432-49 | 1 | | | | b | 1437 | 1 | |
| | | 1506-08 | 1 | | | | g | 1439-40 | 2 | |
| | | 1521-25 | 2 | | | | b | 1504 | 1 | |
| | | 1735-37 | 1 | | | | C | 1524-25 | 3 | |
| | | 1743 | 2 | | | | b | 1638 | 3 | |

# SOLAR RADIO EMISSION
# SPECTRUM OBSERVATIONS

JUNE 1959

Fort Davis

25-580 Mc

| Date and Observing Times (U.T.) 1959 | Type I (Noise Storms and Continuum) | | | Type II (Slow Drift Bursts) Unclasssified | | | Type III (Fast Drift Bursts) | | | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|
| | Bursts* or Continuum | Time | Int | II or Unclass | Time | Int | Act | Time | Int | |
| | | 1803-10 | 3 | | | | b | 1642 | 1- | |
| | | 1827-33 | 1 | | | | b | 1644 | 2 | |
| | | 2013-21 | 1 | | | | g | 1713 | 3 | |
| | | 2025-54 | 1- | | | | g | 1716 | 2 | |
| | | 2054-55 | 3 | | | | g | 1719 | 2 | |
| | | 2055-2122 | 1 | | | | g | 1735 | 2 | |
| | | 2156-2224 | 1 | | | | g | 1736 | 3 | |
| | | 2242-50 | 1 | | | | b | 1741 | 2 | 1741 U burst |
| | | 2305-06 | 1 | | | | g | 1803-04 | 3 | 1804 U burst |
| | | | | | | | g | 1806 | 3 | |
| | | | | | | | g | 1807 | 3 | |
| | | | | | | | g | 1808 | 3 | |
| | | | | | | | G | 1509 | 2 | |
| | | | | | | | g | 1832 | 1 | |
| | | | | | | | b | 1835 | 1 | |
| | | | | | | | g | 1952 | 2 | |
| | | | | | | | b | 2013 | 2 | |
| | | | | | | | b | 2014 | 1 | |
| | | | | | | | g | 2016 | 3 | |
| | | | | | | | b | 2050 | 1 | |
| | | | | | | | g | 2051-52 | 2 | |
| | | | | | | | g | 2053-54 | 1 | |
| | | | | | | | g | 2054-55 | 1 | |
| | | | | | | | g | 2056 | 1 | |
| | | | | | | | g | 2057-58 | 3 | |
| | | | | | | | g | 2059 | 1 | |
| | | | | | | | g | 2100 | 1 | |
| | | | | | | | g | 2108-09 | 2 | |
| | | | | | | | g | 2209 | 3 | |
| | | | | | | | b | 2337 | 1 | |
| | | | | | | | b | 2357 | 1 | |
| June 12 | | 0003-36 | 1- | | | | g | 1247 | 2 | |
| 0000-0145 | | 2215-30 | 1- | | | | g | 1301 | 1 | |
| 1230-2400 | | | | | | | g | 1538 | 1 | |
| | | | | | | | g | 1606-09 | 2 | |
| | | | | | | | b | 1611 | 2 | |
| | | | | | | | g | 1619 | 2 | |
| | | | | | | | b | 1621 | 2 | |
| | | | | | | | g | 1623 | 2 | |
| | | | | | | | g | 1625 | 1 | |
| | | | | | | | g | 1626-27 | 2 | |
| | | | | | | | g | 1742 | 1 | |
| | | | | | | | g | 2337 | 2 | |
| | | | | | | | g | 2339 | 2 | |
| June 13 | | 0007 | 1- | Uncl. | 1835 | 1 | b | 1913 | 2 | |
| 0000-0145 | | | | Uncl. | 1944 | 2 | b | 2056 | 1 | |
| 1600-2400 | | | | | | | | | | |
| June 14 | | 1430 | 1- | | | | b | 1238 | 2 | |
| 0000-0145 | | 1549-1607 | 1- | | | | b | 1322 | 2 | |
| 1230-2400 | | 1651-1708 | 1- | | | | b | 1454 | 3 | |
| | | 1755 | 1- | | | | b | 1747 | 1 | |
| | | 1953-57 | 1- | | | | g | 2002-03 | 3 | |
| | | 2157-59 | 2 | | | | b | 2050 | 2 | |
| | | 2303-2310 | 1 | | | | b | 2252 | 1 | |
| | | 2352-56 | 1 | | | | | | | |
| June 15 | | 0122-0143 | 1 | Uncl. | 1304 | 1 | b | 1300 | 1 | |
| 0000-0145 | | 1340-58 | 1- | | | | b | 1305 | 1- | |
| 1230-2400 | | 1433-34 | 1- | | | | g | 1332 | 1 | |
| | | 1534-35 | 1- | | | | g | 1349 | 3 | |
| | | 1955-2000 | 1- | | | | b | 1406 | 1 | |
| | | 2102-08 | 1 | | | | b | 1435 | 1 | |
| | | 2255-56 | 1 | | | | b | 1439 | 2 | |
| | | 2340-41 | 1- | | | | b | 1759 | 2 | |
| | | | | | | | g | 1831 | 2 | |
| | | | | | | | b | 1916 | 2 | |
| | | | | | | | b | 2255 | 1 | |
| | | | | | | | g | 2347 | 1- | |
| June 16 | | 0124-43 | 1 | Uncl. | 0034 | 1- | b | 1250 | 1- | |
| 0000-0150 | | 1218-52 | 1 | | | | g | 1328 | 1 | |
| 1215-2400 | | 1326-45 | 1 | | | | g | 1337 | 2 | |
| | | 1438-1514 | 1 | | | | g | 1454 | 1 | |
| | | 1556 | 1- | | | | g | 1514 | 2 | |
| | | 1725 | 1- | | | | b | 1618 | 1- | |
| | | 1806 | 3 | | | | g | 1815-16 | 2 | |
| | | 1815-35 | 1 | | | | g | 1818 | 1 | |
| | | 1919-25 | 1- | | | | g | 1820-21 | 2 | |
| | | 2027-28 | 2 | | | | b | 1844 | 2 | |
| | | 2050-2105 | 1 | | | | g | 2057 | 2 | |
| | | 2121-22 | 2 | | | | | | | |
| | | 2123-2245 | 1- | | | | | | | |
| | | 2328-51 | 1 | | | | | | | |
| June 17 | | 0116 | 1 | | | | g | 1342 | 1 | |
| 0000-0145 | | 1359-1400 | 1 | | | | b | 1553 | 1- | |
| 1220-2400 | | 1722-24 | 1 | | | | b | 1724 | 1 | |
| | | 1744-1807 | 1 | | | | g | 1741 | 2 | |
| | | 1824 | 1 | | | | b | 1746 | 3 | |

# SOLAR RADIO EMISSION
# SPECTRUM OBSERVATIONS

JUNE 1959

**Fort Davis** 25 - 580 Mc

| Date and Observing Times (U.T.) 1959 | Type I (Noise Storms and Continuum) | | | Type II (Slow Drift Bursts) Unclassified | | | Type III (Fast Drift Bursts) | | | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|
| | Bursts* or Continuum | Time | Int | II or Unclass | Time | Int | Act | Time | Int | |
| | | 1856-1907 | 1 | | | | g | 1835 | 3 | |
| | | 1952-2002 | 1- | | | | | | | |
| | | 2034 | 1 | | | | | | | |
| | | 2148 | 1 | | | | | | | |
| | | 2208-23 | 1- | | | | | | | |
| | | 2225 | 2 | | | | | | | |
| | | 2300-23 | 1 | | | | | | | |
| | | 2335-36 | 3 | | | | | | | |
| | | 2353-54 | 1 | | | | | | | |
| June 18 | | 0048-49 | 1- | | | | b | 0142 | 2 | |
| 0000-0150 | | 0105-16 | 1 | | | | g | 1228 | 2 | |
| 1220-2400 | | 0116-18 | 2 | | | | g | 1802 | 3 | |
| | | 1220-33 | 1 | | | | g | 2038 | 2 | |
| | | 1250-1306 | 1 | | | | g | 2158 | 2 | |
| | | 1319-1508 | 1- | | | | | | | |
| | | 1529-1601 | 1- | | | | | | | |
| | | 1601-39 | 1 | | | | | | | |
| | | 1713 | 1 | | | | | | | |
| | | 1722-35 | 1- | | | | | | | |
| | | 1803 | 1 | | | | | | | |
| | | 2107 | 1 | | | | | | | |
| | | 2158 | 2 | | | | | | | |
| | | 2311-12 | 1 | | | | | | | |
| | | 2355-56 | 1- | | | | | | | |
| June 19 | Cont. | 1625-26 | 3 | | | | g | 0017 | 3 | |
| 0000-0150 | Cont. | 1935-36 | 3 | | | | b | 0140 | 1 | |
| 1215-2400 | | 0017 | 2 | | | | g | 1232-33 | 1 | |
| | | 0143 | 1 | | | | g | 1320 | 2 | |
| | | 1218-26 | 1- | | | | b | 1328 | 2 | |
| | | 1328-30 | 1 | | | | b | 1407 | 2 | |
| | | 1353-54 | 3 | | | | g | 1445 | 3 | |
| | | 1441 | 2 | | | | G | 1625-26 | 3 | |
| | | 1445 | 3 | | | | b | 1644 | 1 | |
| | | 1542 | 1 | | | | g | 1916 | 2 | |
| | | 1612-14 | 1- | | | | g | 1917 | 3 | |
| | | 1641-1700 | 1 | | | | g | 1918-19 | 1- | |
| | | 1739-41 | 1- | | | | b | 1934 | 3 | |
| | | 2036 | 1 | | | | b | 1935 | 1- | |
| | | 2108-09 | 2 | | | | b | 1955 | 1 | |
| | | 2300-01 | 1 | | | | b | 2007 | 3 | |
| | | 2339 | 1- | | | | b | 2008 | 1- | |
| | | | | | | | b | 2016 | 2 | |
| | | | | | | | g | 2029 | 1 | |
| | | | | | | | g | 2031 | 1 | |
| | | | | | | | b | 2049 | 2 | |
| | | | | | | | b | 2050 | 1- | |
| | | | | | | | b | 2106 | 1 | |
| | | | | | | | g | 2108 | 2 | 2108 U burst |
| | | | | | | | g | 2109 | 3 | |
| | | | | | | | b | 2129 | 2 | |
| | | | | | | | g | 2133 | 2 | |
| | | | | | | | g | 2135 | 1 | |
| | | | | | | | b | 2301 | 1- | |
| | | | | | | | G | 2307-08 | 3 | |
| | | | | | | | b | 2331 | 3 | |
| | | | | | | | g | 2332 | 2 | |
| June 20 | Cont. | 1649-50 | 2 | Uncl. | 1754 | 2 | g | 0015 | 2 | |
| 0000-0145 | | 0005-0027 | 1- | Uncl. | 2228 | 2 | b | 0018 | 1- | |
| 1215-2400 | | 0027-28 | 3 | | | | b | 0022 | 1- | |
| | | 0047-48 | 1- | | | | g | 0026 | 1 | |
| | | 1357 | 1- | | | | g | 0027 | 2 | |
| | | 1556-57 | 1- | | | | g | 0044 | 2 | |
| | | 1649 | 2 | | | | g | 0047 | 3 | |
| | | 1752-56 | 1 | | | | g | 0131 | 3 | |
| | | 1820-25 | 1 | | | | g | 1527 | 2 | |
| | | 1905 | 1 | | | | g | 1556 | 2 | |
| | | 2121 | 1 | | | | g | 1649 | 2 | |
| | | 2211-30 | 1 | | | | b | 1650 | 2 | |
| | | | | | | | g | 1754 | 3 | 1754 U burst |
| | | | | | | | g | 1756 | 3 | |
| | | | | | | | g | 1825 | 2 | |
| | | | | | | | b | 2227 | 2 | |
| | | | | | | | g | 2228 | 1 | |
| June 21 | Cont. | 2032-34 | 3 | | | | b | 0035 | 1- | |
| 0000-0150 | | 0127 | 1 | | | | g | 0053 | 3 | |
| 1215-2400 | | 1238-40 | 1 | | | | b | 0127 | 3 | |
| | | 1242-44 | 2 | | | | g | 1223 | 3 | |
| | | 1246-57 | 1- | | | | g | 1234 | 2 | |
| | | 1317-20 | 1 | | | | b | 1340 | 1- | |
| | | 1421-1522 | 1 | | | | b | 1341 | 1- | |
| | | 1527 | 2 | | | | b | 1345 | 2 | |
| | | 1531-34 | 1 | | | | b | 1451 | 2 | |
| | | 1602-10 | 1 | | | | g | 1602 | 1 | |
| | | 1631-1736 | 1- | | | | g | 1603 | 1 | |
| | | 1741-42 | 2 | | | | b | 1604 | 2 | |
| | | 1749-1810 | 1- | | | | g | 1605 | 2 | |
| | | 1833-1900 | 1- | | | | G | 1607-09 | 2 | |

# SOLAR RADIO EMISSION
# SPECTRUM OBSERVATIONS

JUNE 1959

Fort Davis 25-580 Mc

| Date and Observing Times (U.T.) 1959 | Type I (Noise Storms and Continuum) | | | Type II (Slow Drift Bursts) Unclassified | | | Type III (Fast Drift Bursts) | | | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|
| | Bursts* or Continuum | Time | Int | II or Unclass | Time | Int | Act | Time | Int | |
| | | 1949-2013 | 1- | | | | g | 1610 | 1 | |
| | | 2028-33 | 2 | | | | b | 2002 | 1 | |
| | | 2127-44 | 1- | | | | b | 2023 | 1- | |
| | | 2200-31 | 1- | | | | G | 2028-33 | 2 | |
| | | 2330 | 2 | | | | g | 2133 | 1 | |
| | | | | | | | g | 2306 | 1- | |
| June 22 | | 0120 | 1 | | | | G | 0024-26 | 2 | |
| 0000-0150 | | 0136-37 | 2 | | | | b | 0027 | 1 | |
| 1215-2400 | | 1219-21 | 1- | | | | b | 1225 | 1 | |
| | | 1339-40 | 1 | | | | b | 1452 | 3 | |
| | | 1349-1414 | 1- | | | | g | 1837 | 1 | 1837 U burst |
| | | 1449-52 | 2 | | | | b | 1906 | 2 | |
| | | 1500 | 1- | | | | b | 1919 | 2 | |
| | | 1837 | 1 | | | | b | 2014 | 1 | |
| | | 2002 | 2 | | | | g | 2019 | 1 | |
| | | 2124-53 | 1 | | | | b | 2134 | 1 | |
| | | | | | | | b | 2243 | 2 | |
| June 23 | | 0129 | 1 | | | | | | | |
| 0000-0150 | | 1217-40 | 1 | | | | | | | |
| 1215-1435 | | 1359-1400 | 1- | | | | | | | |
| June 24 | Cont. | 1530 | 3 | | | | g | 1410 | 2 | |
| 1215-2400 | | 1215-34 | 2 | | | | g | 1417 | 1 | |
| | | 1258-59 | 2 | | | | g | 1514 | 2 | |
| | | 1300-21 | 1- | | | | b | 1528 | 2 | |
| | | 1322-32 | 2 | | | | g | 1529-30 | 3 | |
| | | 1348-1503 | 1 | | | | b | 1657 | 1 | |
| | | 1506-07 | 3 | | | | b | 1918 | 3 | |
| | | 1514-24 | 1 | | | | | | | |
| | | 1644-45 | 1- | | | | | | | |
| | | 1923-26 | 1- | | | | | | | |
| | | 1953 | 1 | | | | | | | |
| | | 2014 | 1 | | | | | | | |
| | | 2116-2234 | 1- | | | | | | | |
| June 25 | | 0136-42 | 1- | | | | g | 1653 | 1- | |
| 0000-0150 | | 1245-54 | 1- | | | | b | 2004 | 1 | |
| 1215-2400 | | 1255-1504 | 1 | | | | g | 2316 | 1 | |
| | | 1754-1800 | 1 | | | | | | | |
| | | 1952-2041 | 1 | | | | | | | |
| | | 2316-17 | 2 | | | | | | | |
| June 26 | | 1303-28 | 1 | Uncl. | 1705 | 1 | b | 1230 | 2 | |
| 0000-0150 | | 1436-1516 | 2 | Uncl. | 2044 | 2 | g | 1257 | 1- | |
| 1215-2400 | | 1516-32 | 1 | | | | b | 1301 | 2 | |
| | | 1711-13 | 1 | | | | b | 1303 | 1 | |
| | | 1750-1803 | 1- | | | | g | 1317 | 1- | |
| | | 1902-05 | 1 | | | | g | 1335-36 | 1 | |
| | | 1923-24 | 2 | | | | b | 1344 | 1 | |
| | | 2108-44 | 1 | | | | b | 1345 | 1 | |
| | | 2148 | 2 | | | | b | 1346 | 1 | |
| | | 2148-2228 | 1 | | | | g | 1347 | 3 | |
| | | 2245-50 | 1 | | | | g | 1356 | 2 | |
| | | | | | | | b | 1453 | 2 | |
| | | | | | | | b | 1559 | 2 | |
| | | | | | | | g | 1640 | 2 | |
| | | | | | | | g | 1701-03 | 3 | |
| | | | | | | | g | 1706 | 1- | |
| | | | | | | | g | 1708 | 1 | |
| | | | | | | | g | 1711 | 2 | |
| | | | | | | | g | 1712 | 1 | |
| | | | | | | | b | 1713 | 2 | |
| | | | | | | | g | 1730 | 1 | |
| | | | | | | | b | 1822 | 1- | |
| | | | | | | | b | 1829 | 1- | |
| | | | | | | | g | 1844 | 2 | |
| | | | | | | | b | 1849 | 1 | |
| | | | | | | | g | 1908 | 2 | |
| | | | | | | | G | 1923-24 | 2 | 1924 U burst |
| | | | | | | | g | 1939 | 2 | |
| | | | | | | | g | 1940 | 1 | |
| | | | | | | | g | 2014 | 1 | |
| | | | | | | | g | 2251 | 3 | |
| | | | | | | | b | 2333 | 2 | |
| | | | | | | | b | 2335 | 1 | |
| | | | | | | | b | 2343 | 2 | |
| June 27 | | 0023-43 | 1 | | | | b | 0009 | 1 | |
| 0000-0150 | | 0043-0120 | 2 | | | | b | 0018 | 3 | |
| 1215-2400 | | 0120-35 | 1 | | | | b | 0021 | 3 | |
| | | 0135-42 | 2 | | | | g | 0118 | 2 | |
| | | 1359 | 1 | | | | g | 1306 | 2 | |
| | | 1453-1505 | 1- | | | | g | 1310 | 2 | |
| | | 1505-12 | 1 | | | | g | 1319 | 1- | |
| | | 1539-54 | 1- | | | | b | 1332 | 1 | |
| | | 1654-57 | 1 | | | | g | 1437 | 1 | |
| | | 1711-13 | 2 | | | | g | 1451 | 1 | |
| | | 1727-1811 | 1- | | | | b | 1539 | 1- | |

# SOLAR RADIO EMISSION SPECTRUM OBSERVATIONS

JUNE 1959

Fort Davis

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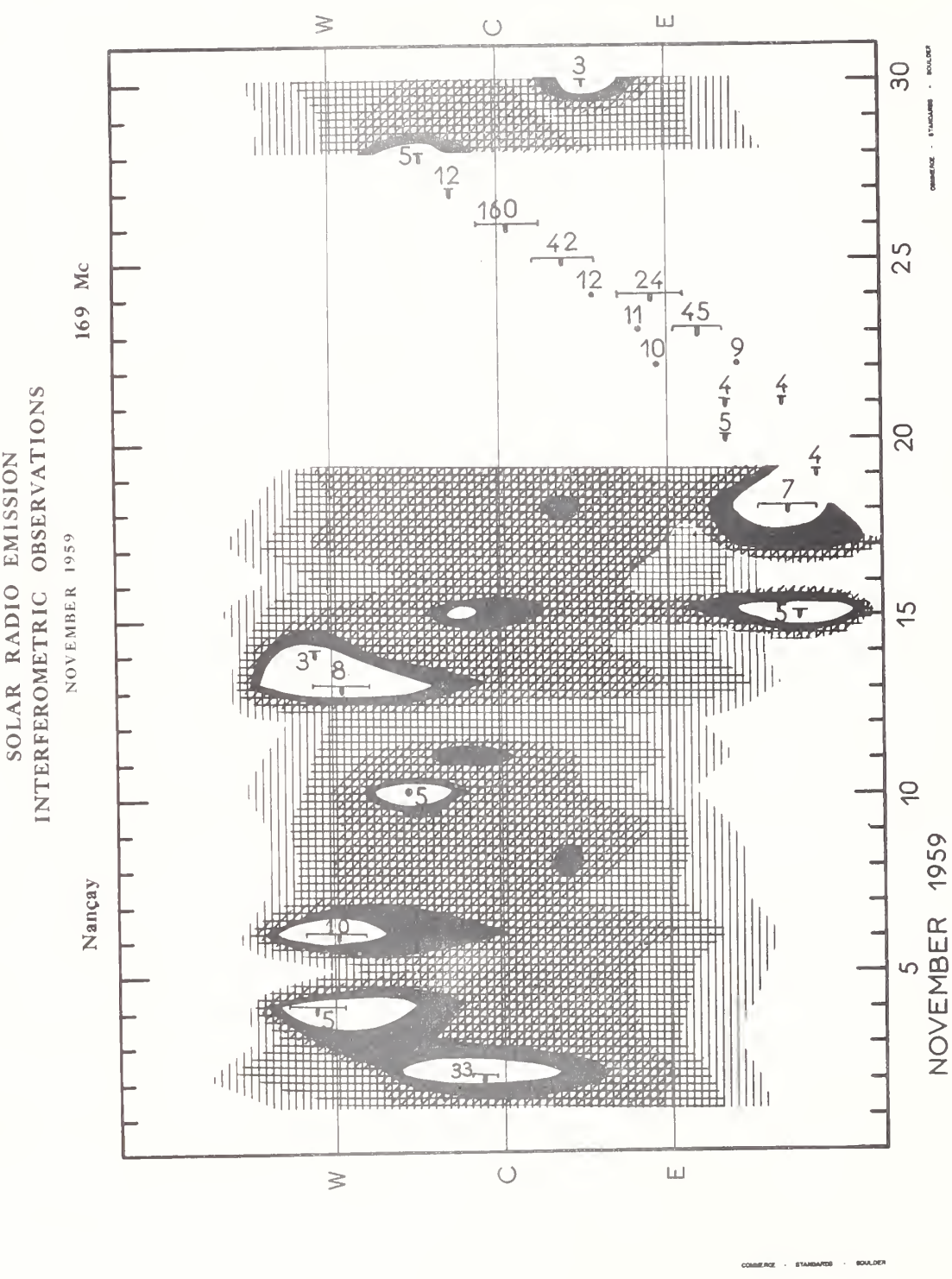
| Date and Observing Times (U.T.) 1959 | Type I (Noise Storms and Continuum) | | | Type II (Slow Drift Bursts) Unclassified | | | | Type III (Fast Drift Bursts) | | | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Bursts* or Continuum | Time | Int | II or Unclass | Time | Int | | Act | Time | Int | |
| | | 1811-2256 | 1 | | | | b | 1555 | 1 | | |
| | | 2256-58 | 2 | | | | b | 1657 | 1 | | |
| | | 2258 → | 1 | | | | b | 2116 | 1 | | |
| | | | | | | | g | 2143 | 1 | | |
| | | | | | | | b | 2151 | 1- | | |
| | | | | | | | G | 2350-51 | 2 | | |
| June 28 | | ← 0147 | 1 | Uncl. | 1547 | 1 | g | 0127 | 1- | | |
| 0000-0150 | | 1216-21 | 2 | Uncl. | 1849 | 1 | g | 0128 | 1 | | |
| | | 1221-1509 | 1 | Uncl. | 2242 | 1 | g | 1314 | 1 | | |
| | | 1614 | 1 | | | | b | 1323 | 1 | | |
| | | 1635 | 1- | | | | b | 1349 | 1- | | |
| | | 1728-30 | 1 | | | | b | 1548 | 1 | | |
| | | 1828-32 | 1- | | | | g | 1638 | 2 | | |
| | | 1915-16 | 1 | | | | g | 1735-36 | 1 | | |
| | | 2336-39 | 1 | | | | b | 1816 | 1- | | |
| | | | | | | | g | 1849 | 1 | | |
| | | | | | | | C | 1905-06 | 3 | | |
| | | | | | | | C | 1907-08 | 1 | | |
| | | | | | | | g | 1916 | 1 | | |
| | | | | | | | g | 1947-48 | 1 | | |
| | | | | | | | b | 2317 | 1 | | |
| June 29 | | 0141-42 | 1 | Uncl. | 2015 | 2 | g | 0023 | 3 | | |
| 0000-0150 | | 1222-1314 | 1 | | | | b | 0027 | 1 | | |
| 1220-1600 | | 1329-30 | 1 | | | | g | 0123 | 2 | | |
| 1640-2400 | | 1447-54 | 1- | | | | b | 1323 | 1- | | |
| | | 1653-1827 | 1 | | | | g | 1524-25 | 1 | | |
| | | 1828-39 | 2 | | | | C | 1551-52 | 2 | | |
| | | 1846 | 3 | | | | g | 1804-06 | 2 | | |
| | | 1847-1933 | 1 | | | | b | 1808 | 2 | | |
| | | | | | | | g | 2015-16 | 1 | | |
| | | | | | | | b | 2019 | 3 | | |
| | | | | | | | g | 2050 | 1 | | |
| June 30 | | | | | | | g | 0013 | 2 | | |
| 0000-0150 | | | | | | | b | 0111 | 3 | | |
| 1215-2400 | | | | | | | b | 0119 | 1 | | |
| | | | | | | | b | 0120 | 1- | | |
| | | | | | | | g | 0122 | 1 | | |
| | | | | | | | b | 1513 | 2 | | |

Errata: In CRPL-F 182 Part B, issued October 1959, the entries called "Continuum" should have been indicated as "Continuum IV" in the following cases:

1959 Feb. 12 2303-2342 UT
2342-2345
2345 →
Feb. 13 ← 0009
Feb. 20 1813-1815
1815-1819
1819-1824

COMMERCE - STANDARDS - BOULDER


SOLAR RADIO EMISSION
INTERFEROMETRIC OBSERVATIONS
NOVEMBER 1959
169 Mc
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5
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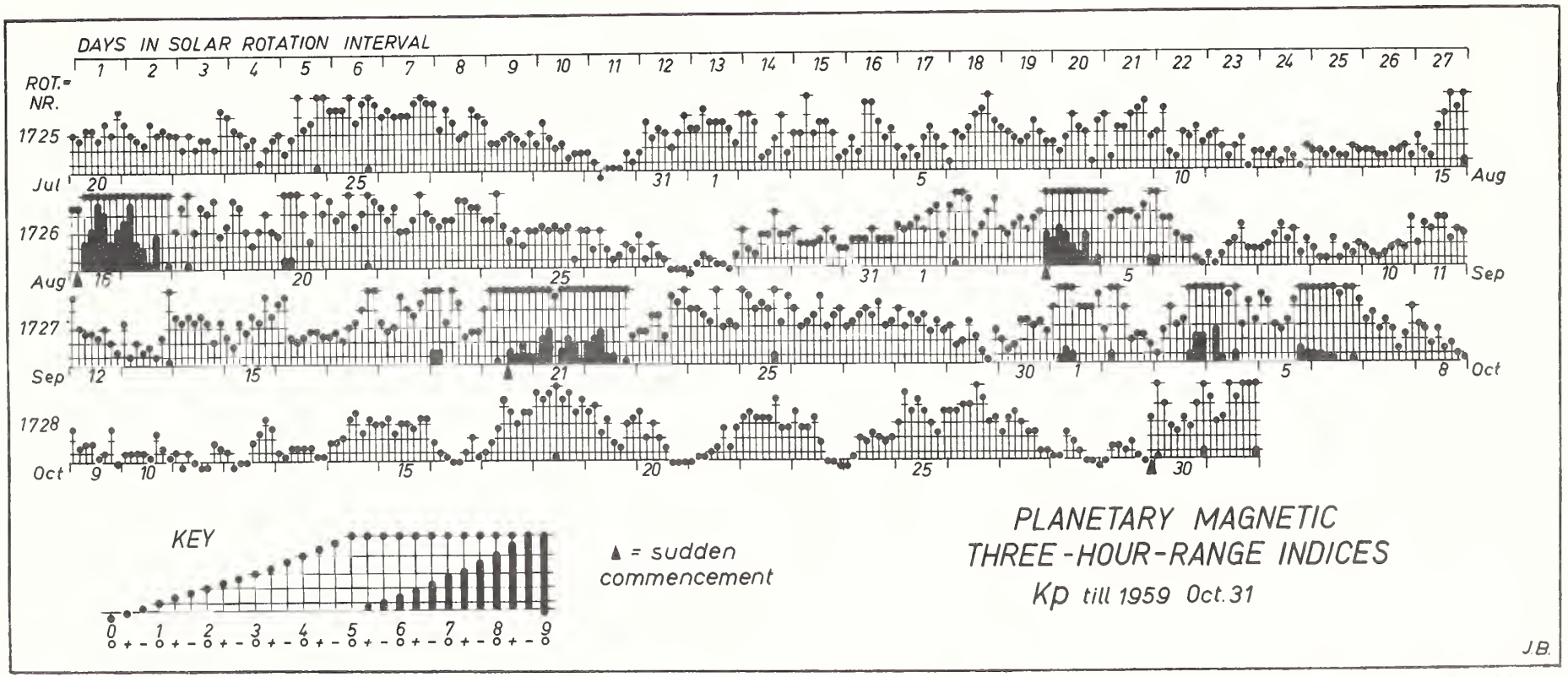
33
COMMERCE · STANDARDS · BOULDER

# GEOMAGNETIC ACTIVITY INDICES

## OCTOBER 1959

| Oct. 1959 | C | Values Kp Three hour Gr. interval 1 2 3 4 | 5 6 7 8 | Sum | Ap | Final Selected Days |
|---|---|---|---|---|---|---|
| 1 | 1.3 | 4o 5+ 6o 6- | 4o 4o 4o 5- | 38- | 44 | Five |
| 2 | 1.0 | 3- 6- 5o 4o | 2o 2+ 2+ 2- | 26- | 23 | Quiet |
| 3 | 1.5 | 1o 3- 4o 3o | 3+ 6- 7- 7- | 33o | 46 | |
| 4 | 1.3 | 5o 7o 5+ 5- | 6- 3o 4+ 3+ | 38+ | 51 | 10 |
| 5 | 1.3 | 5- 4+ 3o 3- | 3+ 4+ 6o 6- | 34o | 37 | 11 |
| | | | | | | 13 |
| 6 | 1.5 | 6- 6- 5+ 5+ | 5- 5o 5+ 4+ | 41+ | 53 | 16 |
| 7 | 0.9 | 3+ 4- 3- 3+ | 3- 1+ 2+ 4o | 23+ | 15 | 28 |
| 8 | 0.3 | 3o 3- 2- 3- | 1+ 2- 1o 1- | 15- | 8 | |
| 9 | 0.3 | 3- 1+ 2- 2- | 1- 1o 3- 0+ | 12o | 6 | |
| 10 | 0.2 | 1o 1o 1o 1o | 1- 2+ 1+ 1- | 9o | 4 | |
| 11 | 0.2 | 1o 0o 1o 0+ | 0o 0o 2- 1+ | 5+ | 3 | Five |
| 12 | 0.4 | 1o 0o 0+ 0+ | 2- 2+ 3+ 3- | 12- | 7 | Disturbed |
| 13 | 0.2 | 1o 1- 1+ 1+ | 1+ 1+ 1- 1- | 8+ | 4 | |
| 14 | 0.8 | 2- 2- 2o 3+ | 4- 2+ 3+ 3o | 21o | 13 | 1 |
| 15 | 1.0 | 3o 3+ 2+ 3o | 3o 3- 3+ 3+ | 24o | 15 | 3 |
| | | | | | | 4 |
| 16 | 0.1 | 2- 1o 1- 0+ | 0+ 1o 2o 1- | 8- | 4 | 6 |
| 17 | 1.0 | 1o 2- 3- 4+ | 4- 3o 4- 4- | 24- | 17 | 31 |
| 18 | 1.2 | 5- 4+ 5- 5+ | 4+ 5- 4- 4+ | 36o | 36 | |
| 19 | 0.9 | 4- 4o 2+ 3+ | 2- 1+ 3o 3+ | 23- | 15 | |
| 20 | 0.4 | 4- 2o 3o 2o | 1+ 0+ 0+ 0+ | 13o | 8 | |
| 21 | 0.4 | 0+ 1- 1- 1o | 1+ 3- 1+ 3- | 11- | 6 | Ten |
| 22 | 1.2 | 3+ 4- 3+ 3+ | 3+ 4+ 3- 3- | 27- | 19 | Quiet |
| 23 | 0.5 | 4- 3- 3- 3+ | 2- 0+ 0+ 0o | 15- | 10 | |
| 24 | 0.3 | 0o 1- 2o 2- | 2+ 2o 2- 2o | 12+ | 6 | 9 |
| 25 | 1.2 | 3o 5- 4- 4+ | 4- 3o 2+ 4- | 28+ | 22 | 10 |
| | | | | | | 11 |
| 26 | 1.2 | 4- 4- 4o 4o | 5o 4+ 3o 3+ | 31o | 26 | 12 |
| 27 | 0.7 | 2+ 3+ 4- 3o | 2+ 2+ 1o 1o | 19o | 11 | 13 |
| 28 | 0.0 | 1- 1- 2+ 2- | 1o 0+ 0+ 0o | 7o | 4 | 16 |
| 29 | 0.2 | 0+ 1+ 1+ 1o | 2- 1- 0+ 3+ | 10o | 6 | 21 |
| 30 | 1.3 | 5+ 4o 3- 2+ | 3+ 3- 4o 6- | 30o | 28 | 24 |
| 31 | 1.5 | 4+ 3o 3+ 5o | 4+ 5o 5o 6- | 36- | 38 | 28 |
| | | | | | | 29 |
| Mean: | 0.78 | | | Mean: | 19 | |




COMMERCE - STANDARDS - BOULDER

# CRPL RADIO PROPAGATION QUALITY FIGURES AND FORECASTS

## NORTH ATLANTIC

OCTOBER 1959

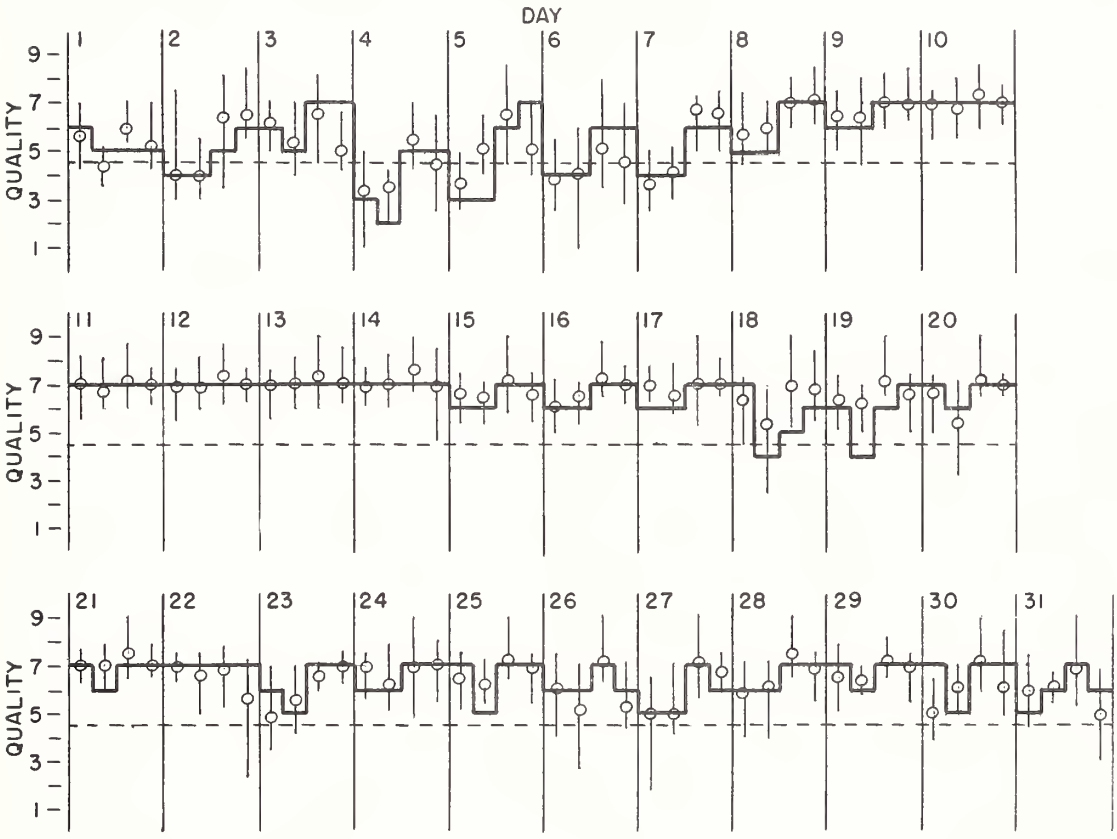
| Oct. 1959 | North Atlantic 6-hourly quality figures | | | | Short-term forecasts issued about one hour in advance of: | | | | Whole day index | Advance forecasts (J-reports) for whole day; issued in advance by: | | | | Geomagnetic $K_{Fr}$ | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 00 to 06 | 06 to 12 | 12 to 18 | 18 to 24 | 00 | 06 | 12 | 18 | | 1-7 days Final | 1-7 days Js | 1-7 days SDW | 1-7 days J | Half (1) | Day (2) |
| 1 | 6- | 4+ | 6o | 5+ | 6 | 5 | 5 | 5 | 5+ | 7 | | | 7 | (5) | 3 |
| 2 | 4o | 4- | 6+ | 7- | 4 | 4 | 5 | 6 | 5- | 7 | | | 7 | (4) | 2 |
| 3 | 6o | 5+ | 6+ | 5o | 6 | 5 | 7 | 7 | 6- | 7 | | | 7 | 2 | (4) |
| 4 | 3+ | 3+ | 6- | 4+ | 3 | 2 | 5 | 5 | (4o) | 7 | | | 7 | (6) | (4) |
| 5 | 3+ | 5o | 7- | 5o | 3 | 3 | 6 | 7 | 5- | 7 | | | 7 | 3 | 3 |
| 6 | 4- | 4+ | 5+ | 4+ | 4 | 4 | 6 | 6 | (4+) | 7 | | | 7 | (5) | 3 |
| 7 | 4- | 4+ | 7- | 7- | 4 | 4 | 6 | 6 | 5- | 7 | | | 7 | 3 | 3 |
| 8 | 6- | 6o | 7o | 7o | 5 | 5 | 7 | 7 | 6+ | 6 | | | 6 | 3 | 1 |
| 9 | 7- | 6+ | 7o | 7o | 6 | 6 | 7 | 7 | 7- | 6 | | | 6 | 2 | 1 |
| 10 | 7o | 7- | 7+ | 7+ | 7 | 7 | 7 | 7 | 7o | 6 | | | 6 | 1 | 1 |
| 11 | 7o | 7- | 7+ | 7o | 7 | 7 | 7 | 7 | 7o | 6 | | | 6 | 1 | 1 |
| 12 | 7o | 7- | 7+ | 7o | 7 | 7 | 7 | 7 | 7o | 7 | | | 7 | 0 | 3 |
| 13 | 7o | 7o | 7+ | 7o | 7 | 7 | 7 | 7 | 7o | 7 | | | 7 | 1 | 1 |
| 14 | 7- | 7o | 8- | 7o | 7 | 7 | 7 | 7 | 7o | 7 | | | 7 | 2 | 3 |
| 15 | 7- | 6+ | 7+ | 7- | 6 | 6 | 7 | 7 | 7- | 6 | | | 6 | 2 | 3 |
| 16 | 6+ | 7- | 7+ | 7o | 6 | 6 | 7 | 7 | 7- | 5 | | | 5 | 1 | 1 |
| 17 | 7o | 7- | 7o | 7o | 6 | 6 | 7 | 7 | 7o | 4 | | | 4 | 2 | 3 |
| 18 | 6+ | 5+ | 7o | 7- | 7 | 4 | 5 | 6 | 6+ | 4 | | | 4 | (4) | (4) |
| 19 | 6+ | 6+ | 7+ | 7- | 6 | 4 | 6 | 7 | 7- | 5 | | | 5 | 3 | 2 |
| 20 | 7- | 5+ | 7+ | 7o | 7 | 6 | 7 | 7 | 7- | 6 | | | 6 | 2 | 1 |
| 21 | 7o | 7o | 8- | 7o | 7 | 6 | 7 | 7 | 7+ | 6 | | | 6 | 1 | 2 |
| 22 | 7o | 7- | 7- | 6- | 7 | 7 | 7 | 7 | 7- | 7 | | | 7 | (4) | 3 |
| 23 | 5- | 6- | 7- | 7o | 6 | 5 | 7 | 7 | 6o | 7 | | | 7 | 3 | 1 |
| 24 | 7o | 6+ | 7o | 7o | 6 | 6 | 7 | 7 | 7- | 7 | | | 7 | 1 | 2 |
| 25 | 7- | 6+ | 7+ | 7o | 7 | 5 | 7 | 7 | 7- | 7 | | | 7 | 3 | 3 |
| 26 | 6o | 5+ | 7+ | 5+ | 6 | 6 | 7 | 6 | 6o | 7 | | | 7 | (4) | 3 |
| 27 | 5o | 5o | 7o | 7- | 5 | 5 | 7 | 6 | 6o | 7 | | | 7 | 3 | 1 |
| 28 | 6o | 6+ | 7+ | 7o | 6 | 6 | 7 | 7 | 7- | 7 | | | 7 | 2 | 0 |
| 29 | 7- | 6+ | 7+ | 7- | 7 | 6 | 7 | 7 | 7- | 7 | | | 7 | 1 | 1 |
| 30 | 5o | 6+ | 7+ | 6+ | 7 | 5 | 7 | 7 | 6+ | 6 | | | 6 | (4) | 3 |
| 31 | 6o | 6+ | 7- | 5o | 5 | 6 | 7 | 6 | 6o | 6 | | | 6 | (4) | (4) |
| Score: Quiet Periods | | | | | P | 17 | 14 | 20 | 19 | 11 | | | 11 | | |
| | | | | | S | 8 | 10 | 10 | 8 | 10 | | | 10 | | |
| | | | | | U | 1 | 1 | 1 | 2 | 6 | | | 6 | | |
| | | | | | F | 0 | 1 | 0 | 0 | 2 | | | 2 | | |
| Disturbed Periods | | | | | P | 5 | 3 | 0 | 0 | 0 | | | 0 | | |
| | | | | | S | 0 | 2 | 0 | 1 | 0 | | | 0 | | |
| | | | | | U | 0 | 0 | 0 | 0 | 0 | | | 0 | | |
| | | | | | F | 0 | 0 | 0 | 1 | 2 | | | 2 | | |

( ) represent disturbed values.

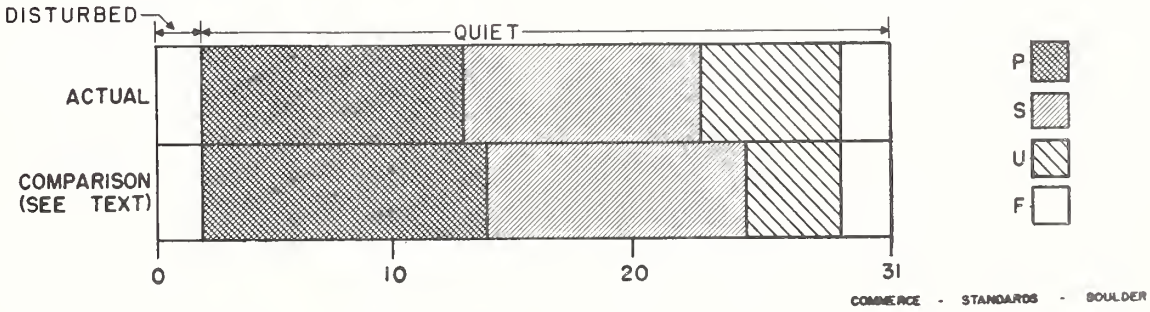
NORTH ATLANTIC

— Short-term forecast OCTOBER 1959 | Range of reports

o Quality figure

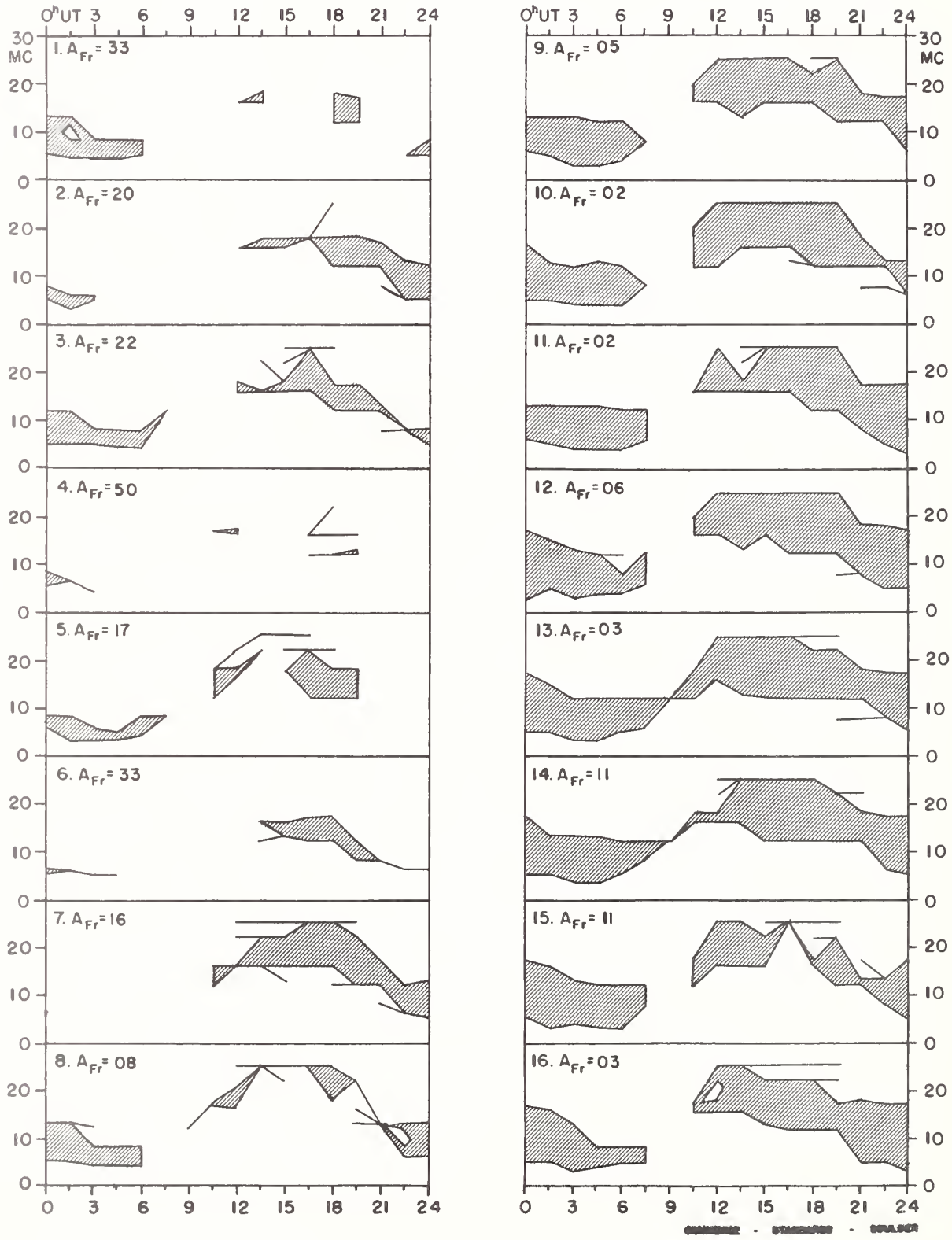



OUTCOME OF ADVANCED FORECASTS FINAL ESTIMATE

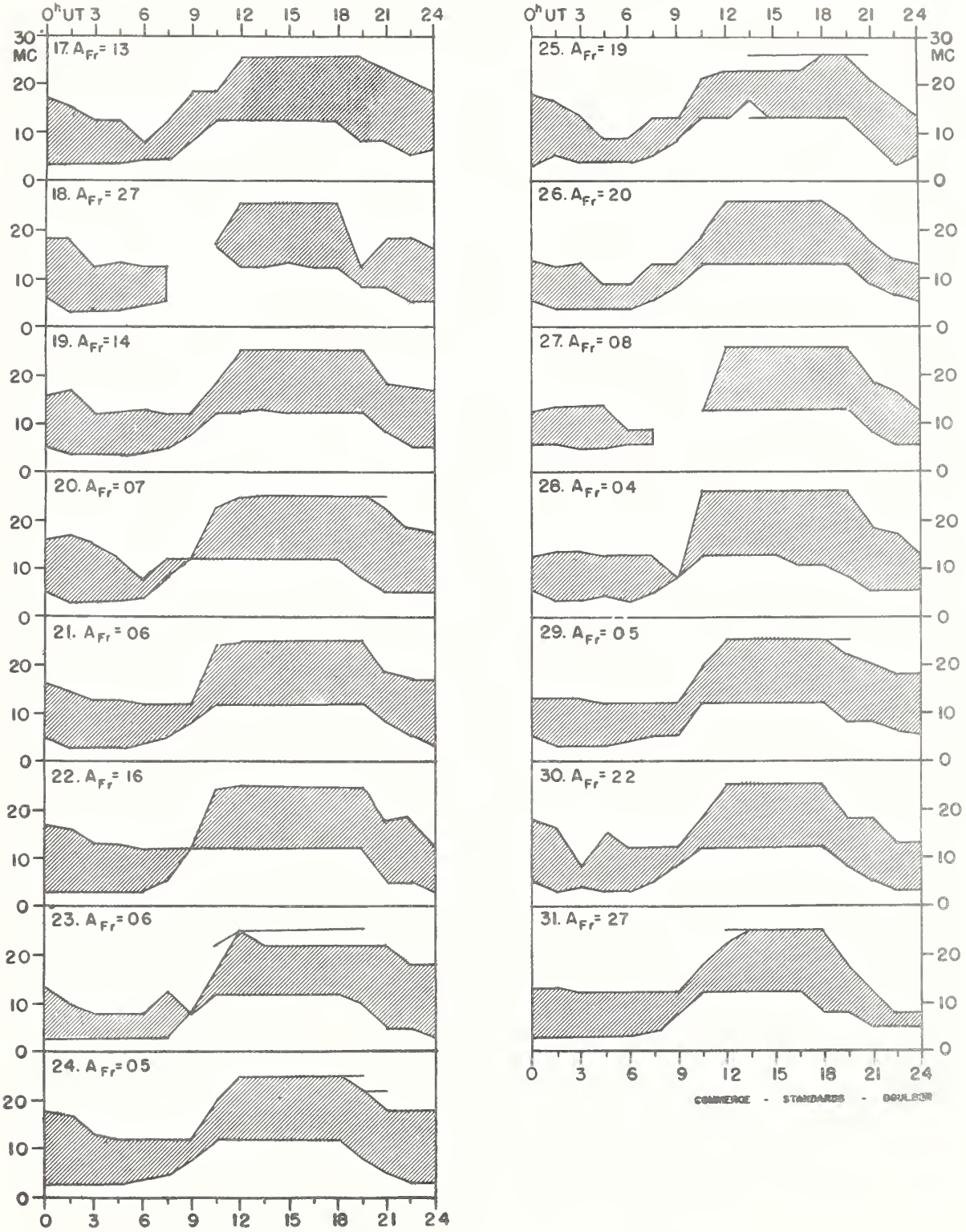


# USEFUL FREQUENCY RANGES -- NORTH ATLANTIC PATH

OCTOBER 1959



OCTOBER 1959




Adapted from Observations by Deutsches Bundespost

# CRPL RADIO PROPAGATION QUALITY FIGURES AND FORECASTS

## NORTH PACIFIC

OCTOBER 1959

| Oct. 1959 | North Pacific 12-hourly quality figures | | Short-term forecasts issued at | | Whole day index | Advance forecasts (Jp reports) for whole day; issued in advance by: | | | | Geomagnetic $K_{Si}$ | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0700 to 1900 | 1900 to 0700 | 0600 | 1800 | | 1-7 days Final | 1-7 days Jps | 1-7 days SDW | 1-7 days Jp | Half (1) | Day (2) |
| 1 | 5 | 5 | 6 | 6 | 5 | 5 | | | 5 | (4) | (4) |
| 2 | 6 | 7 | 5 | 5 | 6 | 6 | | | 6 | 2 | (6) |
| 3 | 6 | 4 | 5 | 5 | 5 | 6 | | | 6 | (5) | (6) |
| 4 | 3 | 5 | 5 | 4 | (4) | 6 | | | 6 | (4) | (4) |
| 5 | 4 | 4 | 5 | 5 | (4) | 6 | | | 6 | (5) | (7) |
| 6 | 2 | 5 | 4 | 3 | (3) | 6 | | | 6 | 3 | 3 |
| 7 | 6 | 7 | 4 | 6 | 6 | 6 | | | 6 | 2 | 2 |
| 8 | 7 | 6 | 6 | 7 | 7 | 5 | | | 5 | 1 | 2 |
| 9 | 5 | 7 | 6 | 6 | 6 | 6 | | | 6 | 1 | 1 |
| 10 | 6 | 6 | 6 | 7 | 6 | 6 | | | 6 | 0 | 0 |
| 11 | 6 | 6 | 6 | 7 | 6 | 6 | | | 6 | 0 | 1 |
| 12 | 6 | 6 | 6 | 7 | 6 | 6 | | | 6 | 1 | 1 |
| 13 | 7 | 7 | 6 | 7 | 7 | 6 | | | 6 | 1 | 2 |
| 14 | 7 | 7 | 7 | 7 | 7 | 5 | | | 5 | 2 | 2 |
| 15 | 6 | 6 | 6 | 7 | 7 | 7 | | | 7 | 1 | 0 |
| 16 | 6 | 6 | 7 | 6 | 6 | 6 | | | 6 | 1 | 3 |
| 17 | 7 | 7 | 6 | 7 | 7 | 5 | | | 5 | 3 | (4) |
| 18 | 6 | 6 | 6 | 6 | 6 | 4 | | | 4 | 3 | 2 |
| 19 | 6 | 7 | 6 | 7 | 7 | 4 | | | 4 | 2 | 2 |
| 20 | 6 | 6 | 7 | 7 | 6 | 4 | | | 4 | 0 | 0 |
| 21 | 6 | 7 | 6 | 6 | 6 | 5 | | | 5 | 2 | (4) |
| 22 | 6 | 7 | 6 | 6 | 6 | 6 | | | 6 | 2 | 2 |
| 23 | 5 | 6 | 6 | 6 | 6 | 6 | | | 6 | 0 | 2 |
| 24 | 5 | 7 | 6 | 6 | 6 | 6 | | | 6 | 2 | (5) |
| 25 | 6 | 7 | 6 | 6 | 6 | 7 | | | 7 | 3 | (6) |
| 26 | 6 | 7 | 5 | 6 | 6 | 7 | | | 7 | 3 | 3 |
| 27 | 6 | 7 | 5 | 7 | 6 | 6 | | | 6 | 0 | 1 |
| 28 | 6 | 5 | 6 | 7 | 6 | 6 | | | 6 | 0 | 2 |
| 29 | 6 | 6 | 6 | 7 | 6 | 7 | | | 7 | 2 | 2 |
| 30 | 6 | 6 | 5 | 6 | 6 | 6 | | | 6 | 2 | (6) |
| 31 | 5 | 5 | 7 | 4 | 5 | 6 | | | 6 | (4) | (7) |

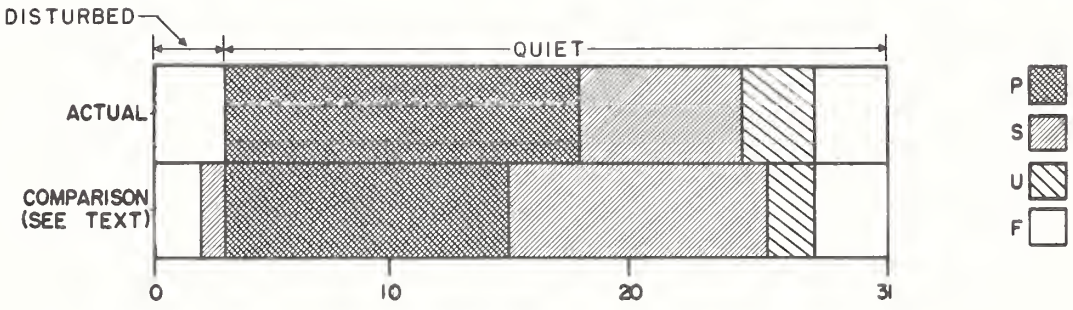
| Score: | | | | |
|---|---|---|---|---|
| Quiet Periods | P | 12 | 9 | 15 |
| | S | 14 | 17 | 7 |
| | U | 1 | 3 | 3 |
| | F | 1 | 0 | 3 |
| Disturbed Periods | P | 0 | 0 | 0 |
| | S | 1 | 2 | 0 |
| | U | 2 | 0 | 0 |
| | F | 0 | 0 | 3 |

( ) represent disturbed values.

NORTH PACIFIC

OCTOBER 1959

OUTCOME OF ADVANCED FORECASTS FINAL ESTIMATE



# ALERT PERIODS AND SPECIAL WORLD INTERVALS

INTERNATIONAL GEOPHYSICAL COOPERATION 1959
NOVEMBER 1959

| Issued Day/Time UT Nov. 1959 | Advance Geophysical Alert | No. | Worldwide Geophysical Alert | Special World Interval |
|---|---|---|---|---|
| 18/2110 | Hawaii, Solar Flare 18/0008Z | | | |
| 23/1410 | Ft. Belvoir, Magnetic Storm 23/0020Z | | | |
| 23/1600 | | 35 | Magnetic Storm 23/0020Z | Start Special World Interval |
| 24/1600 | | 36 | | Finish Special World Interval |
| 28/0600 | Ft. Belvoir, Magnetic Storm 27/2350Z | | | |
| 28/1600 | | 37 | Aurora Inferred Magnetic Storm 27/2350Z | Start Special World Interval |
| 28/2100 | Sacramento Peak, Solar Flare 28/2020Z | | | |
| 29/1600 | | 38 | | Finish Special World Interval |
| 29/1940 | Sacramento Peak, Solar Flare 29/1830Z | | | |
| 30/1600 | | 39 | Magnetic Storm 30/07XXZ | Start Special World Interval |
| 30/1910 | Climax, Solar-Flare 30/1731Z | | | |

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