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

## JANUARY 2003

| Day | Freq | Sta | Type | | Start (UT) | Time of Maximum (UT) | Duration (Min) | Flux Density Peak (10 -22 W/m 2 Hz) | Flux Density Mean (10 -22 W/m 2 Hz) | Int | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 01 | 235 | CUBA | 44 | NS | 1405.0E | | 355.0D | | 5.0 | | |
| | 235 | CUBA | 44 | NS | 1405.0E | | 355.0D | | 13.0 | | |
| | 245 | LEAR | 8 | S | 0743.0 | 0744.0 | 2.0 | 63.0 | | | QL=4 ST=2 TYP=3 |
| | 410 | LEAR | 8 | S | 0743.0 | 0744.0 | 2.0 | 86.0 | | | QL=4 ST=2 TYP=3 |
| | 245 | LEAR | 8 | S | 1020.0 | 1020.0 | U | 180.0 | | | QL=4 ST=2 TYP=3 |
| | 410 | LEAR | 8 | S | 1020.0 | 1020.0 | U | 58.0 | | | QL=4 ST=2 TYP=3 |
| 02 | 235 | CUBA | 44 | NS | 1330.0E | | 390.0D | | 5.0 | | |
| | 235 | CUBA | 44 | NS | 1330.0E | | 390.0D | | 13.0 | | |
| | 245 | SVTO | 8 | S | 0728.0 | 0728.0 | 2.0 | 130.0 | | | QL=4 ST=2 TYP=3 |
| | 245 | SVTO | 8 | S | 0728.0 | 0728.0 | 2.0 | 130.0 | | | QL=4 ST=4 TYP=3 |
| | 245 | SVTO | 8 | S | 0826.0 | 0826.0 | U | 330.0 | | | QL=4 ST=2 TYP=3 |
| | 245 | SVTO | 8 | S | 0826.0 | 0826.0 | U | 330.0 | | | QL=4 ST=4 TYP=3 |
| | 410 | SVTO | 8 | S | 0826.0 | 0826.0 | U | 22.0 | | | QL=4 ST=2 TYP=3 |
| | 410 | SVTO | 8 | S | 0826.0 | 0826.0 | U | 22.0 | | | QL=4 ST=4 TYP=3 |
| | 200 | HIRA | 8 | S | 2313.0 | 2313.0 | 1.0 | 125.0 | | | 0 |
| 03 | 127 | TORN | 43 | NS | 1030.0 | | 180.0 | | 8.0 | | V=0 |
| | 235 | CUBA | 44 | NS | 1620.0E | | 280.0D | | 6.0 | | |
| | 235 | CUBA | 44 | NS | 1620.0E | | 280.0D | | 12.0 | | |
| | 245 | LEAR | 8 | S | 0151.0 | 0151.0 | U | 120.0 | | | QL=4 ST=2 TYP=3 |
| | 500 | HIRA | 8 | S | 0152.0 | 0152.0 | 1.0 | 50.0 | | | 0 |
| | 500 | HIRA | 8 | S | 0515.0 | 0515.0 | 1.0 | 10.0 | | | 0 |
| | 200 | HIRA | 8 | S | 0515.0 | 0515.0 | 1.0 | 50.0 | | | 0 |
| | 200 | HIRA | 8 | S | 0637.0 | 0637.0 | 1.0 | 40.0 | | | WR |
| | 600 | GORK | 7 | C | 0838.8 | 0839.0 | | 5.0 | | | |
| | 600 | GORK | 7 | C | 0838.8 | 0838.9 | 0.5 | 5.0 | | | |
| | 245 | LEAR | 8 | S | 0947.0 | 0947.0 | U | 73.0 | | | QL=4 ST=2 TYP=3 |
| | 600 | GORK | 2 | S/F | 0947.2 | 0947.4 | 0.5 | 7.0 | | | |
| | 33 | UPIC | 8 | S | 1422.0 | 1422.5 | 0.8 | | | | |
| 04 | 204 | IZMI | 43 | NS | 0700.0 | | 300.0D | | 10.0 | | |
| | 127 | TORN | 43 | NS | 0747.0 | 0927.4 | 373.0 | 110.0 | 18.0 | | V=1 |
| | 235 | CUBA | 44 | NS | 1330.0E | | 270.0D | | 5.0 | | |
| | 235 | CUBA | 44 | NS | 1330.0E | | 270.0D | | 13.0 | | |
| | 245 | PALE | 8 | S | 0141.0 | 0141.0 | U | 360.0 | | | QL=4 ST=2 TYP=3 |
| | 410 | PALE | 8 | S | 0141.0 | 0141.0 | U | 77.0 | | | QL=4 ST=2 TYP=3 |
| | 500 | HIRA | 8 | S | 0142.0 | 0142.0 | 1.0 | 20.0 | | | 0 |
| | 200 | HIRA | 8 | S | 0142.0 | 0143.0 | 1.0 | 205.0 | | | 0 |
| | 245 | LEAR | 8 | S | 0142.0 | 0142.0 | U | 290.0 | | | QL=4 ST=2 TYP=3 |
| | 410 | LEAR | 8 | S | 0142.0 | 0142.0 | U | 73.0 | | | QL=4 ST=2 TYP=3 |
| | 2950 | GORK | 20 | GRF | 0830.0 | 1051.0 | 141.0D | 31.0 | | | |
| | 600 | GORK | 22 | GRF | 0851.0 | 0915.1 | | 28.0 | | | |
| | 600 | GORK | 22 | GRF | 0851.0 | 0903.8 | 27.9 | 51.0 | | | |
| | 9100 | GORK | 20 | GRF | 0940.9 | 1016.4 | 76.1D | 34.0 | | | |
| | 245 | LEAR | 8 | S | 1000.0 | 1000.0 | U | 62.0 | | | QL=4 ST=2 TYP=3 |
| | 410 | LEAR | 8 | S | 1000.0 | 1000.0 | U | 70.0 | | | QL=4 ST=2 TYP=3 |
| 05 | 127 | TORN | 44 | NS | 0730.0E | | 390.0D | | 14.0 | | V=0 |
| | 235 | CUBA | 44 | NS | 1325.0E | | 275.0D | | 4.0 | | |
| | 235 | CUBA | 44 | NS | 1325.0E | | 275.0D | | 13.0 | | |
| | 200 | HIRA | 8 | S | 0130.0 | 0131.0 | 1.0 | 85.0 | | | 0 |
| | 410 | LEAR | 8 | S | 0458.0 | 0458.0 | U | 52.0 | | | QL=4 ST=2 TYP=3 |
| | 245 | LEAR | 4 | S/F | 0504.0 | 0504.0 | 5.0 | 59.0 | | | QL=4 ST=2 TYP=3 |
| | 410 | LEAR | 4 | S/F | 0504.0 | 0504.0 | 5.0 | 87.0 | | | QL=4 ST=2 TYP=3 |
| | 2840 | PEKG | 20 | GRF | 0551.0 | 0608.0 | 42.0 | 28.3 | | | |
| | 2800 | HIRA | 3 | S | 0555.0 | 0609.0 | 22.0 | 40.0 | | | 0 |
| | 500 | HIRA | 8 | S | 0602.0 | 0603.0 | 3.0 | 15.0 | | | 0 |
| | 2840 | PEKG | 1 | S | 0721.0 | 0723.3 | 8.0 | 5.1 | | | |
| | 204 | IZMI | 41 | F | 0722.4 | 0722.7 | 1.1 | 42.0 | | | |
| | 200 | HIRA | 8 | S | 0723.0 | 0723.0 | 1.0 | 25.0 | | | 0 |
| | 204 | IZMI | 42 | SER | 0726.4 | 0726.6 | 1.6 | 46.0 | | | |
| | 200 | HIRA | 8 | S | 0727.0 | 0727.0 | 1.0 | 30.0 | | | 0 |
| | 600 | GORK | 7 | C | 0838.3 | 0838.5 | 0.7 | 7.0 | | | |
| | 600 | GORK | 7 | C | 0838.3 | 0838.7 | | 5.0 | | | |
| | 2950 | GORK | 1 | S | 0952.2 | 0952.8 | 1.4 | 4.0 | | | |
| | 900 | GORK | 1 | S | 0952.3 | 0953.0 | 2.3 | 7.0 | | | |
| | 600 | GORK | 2 | S/F | 0952.4 | 0953.0 | 1.5 | 21.0 | | | |
| | 245 | SVTO | 8 | S | 1205.0 | 1205.0 | U | 53.0 | | | QL=4 ST=2 TYP=3 |

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## Outstanding Occurrences

## JANUARY 2003

| Day | Freq | Sta | Type | | Start (UT) | Time of Maximum (UT) | Duration (Min) | Flux Density Peak (10 -22 W/m 2 Hz) | Flux Density Mean (10 -22 W/m 2 Hz) | Int | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 05 | 1415 | SVTO | 8 | S | 1205.0 | 1205.0 | 1.0 | 48.0 | | | QL=4 ST=2 TYP=3 |
| | 2695 | SVTO | 8 | S | 1205.0 | 1205.0 | 1.0 | 27.0 | | | QL=4 ST=2 TYP=3 |
| | 4995 | SVTO | 8 | S | 1205.0 | 1205.0 | 1.0 | 23.0 | | | QL=4 ST=2 TYP=3 |
| 06 | 127 | TORN | 43 | NS | 0750.0 | | 370.0 | | 14.0 | | V=1 |
| | 235 | CUBA | 44 | NS | 1330.0E | | 390.0D | | 8.0 | | |
| | 235 | CUBA | 44 | NS | 1330.0E | | 390.0D | | 15.0 | | |
| | 2840 | PEKG | 1 | S | 0116.0 | 0118.1 | 5.0 | 6.9 | | | |
| | 245 | LEAR | 8 | S | 0242.0 | 0242.0 | U | 270.0 | | | QL=4 ST=2 TYP=3 |
| | 200 | HIRA | 8 | S | 0243.0 | 0243.0 | 1.0 | 50.0 | | | 0 |
| | 245 | LEAR | 8 | S | 0302.0 | 0302.0 | U | 150.0 | | | QL=4 ST=2 TYP=3 |
| | 410 | LEAR | 4 | S/F | 0316.0 | 0319.0 | 3.0 | 63.0 | | | QL=4 ST=2 TYP=3 |
| | 410 | LEAR | 4 | S/F | 0316.0 | 0319.0 | 3.0 | 63.0 | | | QL=4 ST=3 TYP=3 |
| | 200 | HIRA | 8 | S | 0410.0 | 0410.0 | 1.0 | 50.0 | | | 0 |
| | 9100 | GORK | 20 | GRF | 0855.0 | 1023.3 | 185.0D | 23.0 | | | |
| | 204 | IZMI | 42 | SER | 0933.6 | 0934.8 | 1.5 | 18.0 | | | |
| | 600 | GORK | 46 | C | 0935.0 | 0937.0 | | 31.0 | | | |
| | 600 | GORK | 46 | C | 0935.0 | 0936.6 | 3.2 | 23.0 | | | |
| | 900 | GORK | 46 | C | 0935.5 | 0937.0 | 2.3 | 31.0 | | | |
| | 900 | GORK | 46 | C | 0935.5 | 0937.3 | | 11.0 | | | |
| | 2950 | GORK | 22 | GRF | 0936.7 | 0940.0 | 7.6 | 9.0 | | | |
| | 2950 | GORK | 22 | GRF | 0936.7 | 0940.7 | | 11.0 | | | |
| | 204 | IZMI | 7 | C | 1151.7 | 1151.9 | 0.5 | 71.0 | | | |
| | 245 | SGMR | 8 | S | 1424.0 | 1425.0 | 1.0 | 240.0 | | | QL=4 ST=2 TYP=3 |
| | 245 | SVTO | 8 | S | 1424.0 | 1424.0 | 1.0 | 180.0 | | | QL=4 ST=2 TYP=3 |
| | 127 | TORN | 8 | S | 1424.7 | 1425.1 | 1.0 | 520.0 | 260.0 | | |
| | 245 | SGMR | 8 | S | 1629.0 | 1629.0 | U | 290.0 | | | QL=4 ST=2 TYP=3 |
| | 410 | LEAR | 8 | S | 2347.0 | 2347.0 | U | 72.0 | | | QL=4 ST=2 TYP=3 |
| | 610 | LEAR | 8 | S | 2347.0 | 2347.0 | U | 71.0 | | | QL=4 ST=2 TYP=3 |
| | 410 | PALE | 8 | S | 2347.0 | 2347.0 | 1.0 | 68.0 | | | QL=4 ST=2 TYP=3 |
| | 610 | PALE | 8 | S | 2347.0 | 2347.0 | U | 60.0 | | | QL=4 ST=2 TYP=3 |
| | 500 | HIRA | 8 | S | 2348.0 | 2348.0 | 1.0 | 250.0 | | | 0 |
| 07 | 127 | TORN | 43 | NS | 0755.0 | | 365.0 | | 16.0 | | V=1 |
| | 235 | CUBA | 44 | NS | 1400.0E | | 240.0D | | 5.0 | | |
| | 235 | CUBA | 44 | NS | 1400.0E | | 240.0D | | 15.0 | | |
| | 410 | LEAR | 48 | C | 0226.0 | 0229.0 | 3.0 | 120.0 | | | QL=4 ST=2 TYP=8 |
| | 245 | LEAR | 4 | S/F | 0226.0 | 0226.0 | 3.0 | 73.0 | | | QL=4 ST=2 TYP=3 |
| | 204 | IZMI | 41 | F | 0712.5 | 0712.9 | 0.8 | 57.0 | | | |
| | 204 | IZMI | 42 | SER | 0714.0 | 0714.1 | 0.4 | 29.0 | | | |
| | 2840 | PEKG | 3 | S | 0725.0 | 0749.3 | 51.0 | 52.4 | | | |
| | 600 | GORK | 21 | GRF | 0725.1 | 0737.6 | 28.9 | 11.0 | | | |
| | 2950 | GORK | 46 | C | 0733.2 | 0746.1 | 21.1 | 23.0 | | | |
| | 2950 | GORK | 46 | C | 0733.2 | 0749.9 | | 31.0 | | | |
| | 9100 | GORK | 21 | GRF | 0733.8 | 0756.2 | 201.0 | 26.0 | | | |
| | 600 | GORK | 2 | S/F | 0734.4 | 0734.7 | 1.4 | 15.0 | | | |
| | 900 | GORK | 42 | SER | 0734.8 | 0744.4 | 24.5 | 7.0 | | | |
| | 900 | GORK | 42 | SER | 0734.8 | 0752.8 | | 8.0 | | | |
| | 600 | GORK | 7 | C | 0752.4 | 0752.4 | 1.0 | 5.0 | | | |
| | 600 | GORK | 7 | C | 0752.4 | 0752.7 | | 6.0 | | | |
| | 9100 | GORK | 2 | S/F | 0825.3 | 0825.6 | 0.8 | 16.0 | | | |
| | 900 | GORK | 46 | C | 0937.0 | 0937.6 | 2.3 | 90.0 | | | |
| | 900 | GORK | 46 | C | 0937.0 | 0938.8 | | 46.0 | | | |
| | 2950 | GORK | 1 | S | 1032.4 | 1032.6 | 0.4 | 5.0 | | | |
| | 2800 | PENT | 20 | GRF | 1834.0 | 1847.0 | 45.0 | 3.0 | | | |
| | 245 | PALE | 8 | S | 1935.0 | 1935.0 | U | 380.0 | | | QL=4 ST=2 TYP=3 |
| | 245 | SGMR | 8 | S | 1935.0 | 1935.0 | U | 390.0 | | | QL=4 ST=2 TYP=3 |
| | 2800 | HIRA | 4 | S/F | 2328.0 | 2332.0 | 11.0 | 100.0 | | | 0 |
| | 2695 | LEAR | 8 | S | 2331.0 | 2332.0 | 1.0 | 81.0 | | | QL=4 ST=2 TYP=3 |
| | 4995 | LEAR | 8 | S | 2331.0 | 2332.0 | 2.0 | 120.0 | | | QL=4 ST=2 TYP=3 |
| | 8800 | LEAR | 8 | S | 2331.0 | 2332.0 | 1.0 | 76.0 | | | QL=4 ST=2 TYP=3 |
| 08 | 127 | TORN | 44 | NS | 0730.0E | | 400.0D | | 11.0 | | V=1 |
| | 204 | IZMI | 43 | NS | 0956.0 | | 124.0D | | 10.0 | | |
| | 235 | CUBA | 44 | NS | 1330.0E | | 270.0D | | 5.0 | | |
| | 235 | CUBA | 44 | NS | 1330.0E | | 270.0D | | 18.0 | | |
| | 245 | SGMR | 43 | NS | 1347.0 | 1353.0 | 139.0 | 68.0 | | | QL=4 ST=2 TYP=1 |
| | 2840 | PEKG | 1 | S | 0231.0 | 0233.7 | 7.0 | 2.7 | | | |
| | 410 | LEAR | 48 | C | 0301.0 | 0303.0 | 2.0 | 110.0 | | | QL=4 ST=2 TYP=8 |

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## Outstanding Occurrences

## JANUARY 2003

| Day | Freq | Sta | Type | | Start (UT) | Time of Maximum (UT) | Duration (Min) | Flux Density Peak (10 -22 W/m 2 Hz) | Flux Density Mean (10 -22 W/m 2 Hz) | Int | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 08 | 2840 | PEKG | 20 | GRF | 0541.0 | 0549.1 | 31.0 | 10.6 | | | |
| | 500 | HIRA | 8 | S | 0550.0 | 0550.0 | 1.0 | 45.0 | | | O |
| | 200 | HIRA | 8 | S | 0658.0 | 0658.0 | 1.0 | 25.0 | | | WL |
| | 245 | LEAR | 8 | S | 0720.0 | 0720.0 | U | 60.0 | | | QL=4 ST=2 TYP=3 |
| | 245 | SVTO | 8 | S | 0720.0 | 0720.0 | U | 50.0 | | | QL=4 ST=2 TYP=3 |
| | 204 | IZMI | 41 | F | 0720.0 | 0720.1 | 0.4 | 24.0 | | | |
| | 2840 | PEKG | 1 | S | 0720.0 | 0724.3 | 10.0 | 3.3 | | | |
| | 4995 | SVTO | 8 | S | 0724.0 | 0724.0 | 1.0 | 48.0 | | | QL=4 ST=2 TYP=3 |
| | 8800 | SVTO | 8 | S | 0724.0 | 0724.0 | U | 57.0 | | | QL=4 ST=2 TYP=3 |
| | 245 | LEAR | 8 | S | 0811.0 | 0811.0 | U | 110.0 | | | QL=4 ST=2 TYP=3 |
| | 245 | SVTO | 8 | S | 0811.0 | 0811.0 | U | 100.0 | | | QL=4 ST=2 TYP=3 |
| | 204 | IZMI | 7 | C | 0811.5 | 0811.5 | 0.1 | 8.0 | | | |
| | 900 | GORK | 41 | F | 1036.0 | 1038.1 | | 15.0 | | | |
| | 900 | GORK | 41 | F | 1036.0 | 1037.4 | 2.4 | 15.0 | | | |
| | 600 | GORK | 2 | S/F | 1047.0 | 1047.3 | 0.7 | 15.0 | | | |
| | 245 | SVTO | 8 | S | 1205.0 | 1205.0 | 1.0 | 57.0 | | | QL=4 ST=3 TYP=3 |
| | 245 | SGMR | 8 | S | 1250.0 | 1250.0 | U | 57.0 | | | QL=4 ST=2 TYP=3 |
| | 245 | SGMR | 8 | S | 1347.0 | 1348.0 | 1.0 | 52.0 | | | QL=4 ST=2 TYP=3 |
| | 2800 | PENT | 20 | GRF | 1712.0 | 1721.0 | 18.0 | 3.0 | | | |
| 09 | 127 | TORN | 43 | NS | 0800.0 | | 370.0 | | 13.0 | | V=1 |
| | 235 | CUBA | 44 | NS | 1400.0E | | 240.0D | | 6.0 | | |
| | 235 | CUBA | 44 | NS | 1400.0E | | 240.0D | | 15.0 | | |
| | 2840 | PEKG | 3 | S | 0126.0 | 0132.1 | 17.0 | 26.5 | | | |
| | 2800 | HIRA | 1 | S | 0129.0 | 0133.0 | 5.0 | 30.0 | | | O |
| | 245 | LEAR | 8 | S | 0131.0 | 0131.0 | U | 85.0 | | | QL=4 ST=2 TYP=3 |
| | 410 | LEAR | 8 | S | 0131.0 | 0131.0 | U | 57.0 | | | QL=4 ST=2 TYP=3 |
| | 4995 | LEAR | 8 | S | 0132.0 | 0132.0 | U | 55.0 | | | QL=4 ST=2 TYP=3 |
| | 2840 | PEKG | 45 | C | 0530.0 | 0534.7 | 26.0 | 28.9 | | | |
| | 2800 | HIRA | 1 | S | 0533.0 | 0535.0 | 5.0 | 35.0 | | | |
| | 245 | LEAR | 8 | S | 0722.0 | 0722.0 | U | 68.0 | | | QL=4 ST=2 TYP=3 |
| | 2840 | PEKG | 1 | S | 0748.0 | 0750.5 | 9.0 | 9.1 | | | |
| | 2950 | GORK | 2 | S/F | 0749.8 | 0750.5 | 1.4 | 12.0 | | | |
| | 600 | GORK | 2 | S/F | 0750.1 | 0750.4 | 0.6 | 17.0 | | | |
| | 245 | LEAR | 8 | S | 0846.0 | 0846.0 | U | 280.0 | | | QL=4 ST=2 TYP=3 |
| | 245 | SVTO | 8 | S | 0846.0 | 0846.0 | 1.0 | 250.0 | | | QL=4 ST=2 TYP=3 |
| | 600 | GORK | 41 | F | 0910.6 | 0911.4 | 2.1 | 15.0 | | | |
| | 600 | GORK | 41 | F | 0910.6 | 0911.7 | | 17.0 | | | |
| | 2950 | GORK | 45 | C | 0910.9 | 0912.1 | | 17.0 | | | |
| | 2950 | GORK | 45 | C | 0910.9 | 0911.3 | 1.6 | 8.0 | | | |
| | 204 | IZMI | 46 | C | 0955.2 | 0955.9 | 1.5 | 102.0 | | | |
| | 245 | SGMR | 8 | S | 1240.0 | 1240.0 | 2.0 | 75.0 | | | QL=4 ST=2 TYP=3 |
| | 245 | SGMR | 8 | S | 1631.0 | 1631.0 | U | 150.0 | | | QL=4 ST=2 TYP=3 |
| | 2800 | PENT | 1 | S | 1716.0 | 1725.0 | 16.0U | 5.0 | | | |
| | 2800 | PENT | 41 | F | 1834.0 | 1842.0 | 55.0 | 8.0 | | | |
| | 245 | SGMR | 8 | S | 1929.0 | 1929.0 | U | 140.0 | | | QL=4 ST=2 TYP=3 |
| | 245 | SGMR | 8 | S | 1936.0 | 1936.0 | U | 170.0 | | | QL=4 ST=2 TYP=3 |
| | 410 | SGMR | 8 | S | 1936.0 | 1937.0 | 1.0 | 99.0 | | | QL=4 ST=2 TYP=3 |
| | 2800 | PENT | 1 | S | 2107.0 | 2110.0 | 6.0 | 6.0 | | | |
| | 245 | PALE | 49 | GB | 2110.0 | 2111.0 | 1.0 | 2200.0 | | | QL=4 ST=2 TYP=6 |
| | 410 | PALE | 49 | GB | 2111.0 | 2111.0 | U | 1500.0 | | | QL=4 ST=2 TYP=6 |
| 10 | 127 | TORN | 43 | NS | 1010.0 | | 240.0 | | 12.0 | | V=1 |
| | 245 | PALE | 48 | C | 0146.0 | 0146.0 | 3.0 | 52.0 | | | QL=4 ST=2 TYP=8 |
| | 245 | PALE | 8 | S | 0146.0 | 0146.0 | 1.0 | 52.0 | | | QL=4 ST=2 TYP=3 |
| | 245 | PALE | 4 | S/F | 0153.0 | 0153.0 | 3.0 | 48.0 | | | QL=4 ST=3 TYP=3 |
| | 2840 | PEKG | 1 | S | 0733.0 | 0736.2 | 7.0 | 4.1 | | | |
| | 245 | LEAR | 8 | S | 0735.0 | 0735.0 | U | 300.0 | | | QL=4 ST=2 TYP=3 |
| | 245 | SVTO | 8 | S | 0735.0 | 0735.0 | U | 180.0 | | | QL=4 ST=2 TYP=3 |
| | 204 | IZMI | 41 | F | 0735.4 | 0735.6 | 0.8 | 19.0 | | | |
| 11 | 127 | TORN | 44 | NS | 0730.0E | | 400.0D | | 11.0 | | V=2 |
| | 235 | CUBA | 44 | NS | 1300.0E | | 390.0D | | 5.0 | | |
| | 235 | CUBA | 44 | NS | 1330.0E | | 390.0D | | 14.0 | | |
| | 200 | HIRA | 8 | S | 0451.0 | 0451.0 | 1.0 | 25.0 | | | O |
| | 200 | HIRA | 8 | S | 0531.0 | 0531.0 | 1.0 | 15.0 | | | SR |
| | 245 | LEAR | 8 | S | 0828.0 | 0828.0 | U | 63.0 | | | QL=4 ST=2 TYP=3 |
| | 410 | LEAR | 8 | S | 0828.0 | 0828.0 | U | 89.0 | | | QL=4 ST=2 TYP=3 |
| | 204 | IZMI | 42 | SER | 0832.4 | 0938.5 | 77.0 | 79.0 | | | |

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|---|---|---|---|---|---|---|---|---|---|---|---|
| 11 | 900 | GORK | 46 | C | 0859.3 | 0901.4 | | 13.0 | | | |
| | 900 | GORK | 46 | C | 0859.3 | 0900.6 | 3.3 | 7.0 | | | |
| 12 | 127 | TORN | 43 | NS | 0820.0 | | 340.0 | | 12.0 | | V=0 |
| | 235 | CUBA | 44 | NS | 1700.0E | | 120.0D | | 4.0 | | |
| | 235 | CUBA | 44 | NS | 1700.0E | | 120.0D | | 11.0 | | |
| | 2840 | PEKG | 1 | S | 0036.0 | 0039.7 | 7.0 | 7.6 | | | |
| | 200 | HIRA | 8 | S | 0049.0 | 0049.0 | 1.0 | 25.0 | | | WR |
| | 200 | HIRA | 8 | S | 0134.0 | 0134.0 | 1.0 | 155.0 | | | WR |
| | 200 | HIRA | 7 | C | 0411.0 | 0416.0 | 7.0 | 65.0 | | | 0 |
| | 245 | LEAR | 8 | S | 0414.0 | 0415.0 | 2.0 | 150.0 | | | QL=4 ST=2 TYP=3 |
| | 410 | LEAR | 8 | S | 0458.0 | 0458.0 | U | 53.0 | | | QL=4 ST=2 TYP=3 |
| | 200 | HIRA | 8 | S | 0616.0 | 0616.0 | 1.0 | 100.0 | | | 0 |
| | 610 | SVTO | 48 | C | 0645.0 | 0646.0 | 12.0 | 220.0 | | | QL=4 ST=2 TYP=8 |
| | 610 | SVTO | 48 | C | 0645.0 | 0646.0 | 12.0 | 220.0 | | | QL=4 ST=4 TYP=8 |
| | 245 | SVTO | 8 | S | 0651.0 | 0651.0 | U | 24.0 | | | QL=4 ST=2 TYP=3 |
| | 245 | SVTO | 8 | S | 0651.0 | 0651.0 | U | 24.0 | | | QL=4 ST=4 TYP=3 |
| | 1415 | SVTO | 8 | S | 0651.0 | 0652.0 | 2.0 | 26.0 | | | QL=4 ST=2 TYP=3 |
| | 1415 | SVTO | 8 | S | 0651.0 | 0652.0 | 2.0 | 26.0 | | | QL=4 ST=4 TYP=3 |
| | 15400 | SVTO | 8 | S | 0657.0 | 0657.0 | U | 280.0 | | | QL=4 ST=2 TYP=3 |
| | 15400 | SVTO | 8 | S | 0657.0 | 0657.0 | U | 280.0 | | | QL=4 ST=4 TYP=3 |
| | 500 | HIRA | 8 | S | 2307.0 | 2307.0 | 1.0 | 30.0 | | | 0 |
| | 610 | LEAR | 8 | S | 2357.0 | 2358.0 | 1.0 | 96.0 | | | QL=4 ST=3 TYP=3 |
| | 500 | HIRA | 8 | S | 2358.0 | 2358.0 | 1.0 | 25.0 | | | 0 |
| | 245 | LEAR | 8 | S | 2358.0 | 2358.0 | U | 100.0 | | | QL=4 ST=3 TYP=3 |
| | 200 | HIRA | 8 | S | 2359.0 | 2359.0 | 1.0 | 75.0 | | | 0 |
| 13 | 235 | CUBA | 44 | NS | 1303.0E | | 270.0D | | 4.0 | | |
| | 235 | CUBA | 44 | NS | 1330.0E | | 270.0D | | 13.0 | | |
| | 245 | LEAR | 8 | S | 0001.0 | 0001.0 | 2.0 | 290.0 | | | QL=4 ST=2 TYP=3 |
| | 200 | HIRA | 8 | S | 0002.0 | 0002.0 | 1.0 | 20.0 | | | 0 |
| | 410 | LEAR | 8 | S | 0002.0 | 0002.0 | 1.0 | 150.0 | | | QL=4 ST=2 TYP=3 |
| | 245 | PALE | 8 | S | 0002.0 | 0002.0 | 1.0 | 370.0 | | | QL=4 ST=2 TYP=3 |
| | 410 | PALE | 8 | S | 0002.0 | 0003.0 | 1.0 | 230.0 | | | QL=4 ST=2 TYP=3 |
| | 200 | HIRA | 8 | S | 0558.0 | 0558.0 | 1.0 | 25.0 | | | 0 |
| | 245 | LEAR | 8 | S | 0558.0 | 0558.0 | U | 55.0 | | | QL=4 ST=2 TYP=3 |
| | 200 | HIRA | 8 | S | 0605.0 | 0605.0 | 1.0 | 15.0 | | | 0 |
| | 204 | IZMI | 42 | SER | 0722.1 | 0723.4 | 2.0 | 16.0 | | | |
| | 204 | IZMI | 42 | SER | 0736.9 | 0737.4 | 1.9 | 98.0 | | | |
| | 204 | IZMI | 46 | C | 0740.8 | 0741.5 | 4.0 | 398.0 | | | |
| | 204 | IZMI | 42 | SER | 0828.2 | 0828.7 | 0.8 | 24.0 | | | |
| | 204 | IZMI | 7 | C | 0903.8 | 0903.9 | 0.4 | 10.0 | | | |
| | 204 | IZMI | 7 | C | 0944.2 | 0944.3 | 0.1 | 7.0 | | | |
| | 204 | IZMI | 42 | SER | 1010.6 | 1013.5 | 3.3 | 21.0 | | | |
| | 204 | IZMI | 45 | C | 1107.7 | 1107.9 | 0.3 | 159.0 | | | |
| | 245 | SVTO | 8 | S | 1448.0 | 1448.0 | 1.0 | 60.0 | | | QL=4 ST=2 TYP=3 |
| | 245 | SGMR | 8 | S | 1452.0 | 1452.0 | U | 63.0 | | | QL=4 ST=2 TYP=3 |
| | 245 | SVTO | 8 | S | 1452.0 | 1452.0 | 2.0 | 65.0 | | | QL=4 ST=2 TYP=3 |
| | 245 | SGMR | 8 | S | 1549.0 | 1549.0 | U | 93.0 | | | QL=4 ST=2 TYP=3 |
| | 610 | LEAR | 8 | S | 2357.0 | 2358.0 | 1.0 | 96.0 | | | QL=4 ST=2 TYP=3 |
| | 610 | LEAR | 8 | S | 2357.0 | 2358.0 | 1.0 | 96.0 | | | QL=4 ST=4 TYP=3 |
| | 245 | LEAR | 8 | S | 2358.0 | 2358.0 | U | 100.0 | | | QL=4 ST=2 TYP=3 |
| | 245 | LEAR | 8 | S | 2358.0 | 2358.0 | U | 100.0 | | | QL=4 ST=4 TYP=3 |
| | 245 | PALE | 8 | S | 2358.0 | 2358.0 | U | 100.0 | | | QL=4 ST=2 TYP=3 |
| | 610 | PALE | 8 | S | 2358.0 | 2358.0 | U | 100.0 | | | QL=4 ST=2 TYP=3 |
| 14 | 245 | SVTO | 43 | NS | 0928.0 | 0940.0 | 50.0 | 230.0 | | | QL=4 ST=2 TYP=1 |
| | 245 | SVTO | 43 | NS | 0928.0 | 0940.0 | 872.0 | 230.0 | | | QL=4 ST=1 TYP=1 |
| | 245 | LEAR | 43 | NS | 0941.0 | 0941.0 | 45.0 | 220.0 | | | QL=4 ST=2 TYP=1 |
| | 245 | LEAR | 43 | NS | 0941.0 | 0941.0 | 45.0 | 220.0 | | | QL=4 ST=3 TYP=1 |
| | 245 | LEAR | 43 | NS | 0941.0 | 0941.0 | 859.0 | 220.0 | | | QL=4 ST=1 TYP=1 |
| | 235 | CUBA | 44 | NS | 1400.0E | | 300.0D | | 5.0 | | |
| | 235 | CUBA | 44 | NS | 1400.0E | | 300.0D | | 15.0 | | |
| | 610 | LEAR | 8 | S | 0032.0 | 0032.0 | U | 280.0 | | | QL=4 ST=2 TYP=3 |
| | 245 | LEAR | 8 | S | 0911.0 | 0911.0 | U | 60.0 | | | QL=4 ST=2 TYP=3 |
| | 245 | LEAR | 8 | S | 0937.0 | 0937.0 | U | 71.0 | | | QL=4 ST=2 TYP=3 |
| | 204 | IZMI | 42 | SER | 0940.5 | 0940.9 | 1.4 | 40.0 | | | |
| | 204 | IZMI | 42 | SER | 0950.6 | 0952.0 | 2.5 | 48.0 | | | |
| | 245 | SVTO | 8 | S | 1010.0 | 1010.0 | 1.0 | 130.0 | | | QL=4 ST=2 TYP=3 |

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

## JANUARY 2003

| Day | Freq | Sta | Type | | Start (UT) | Time of Maximum (UT) | Duration (Min) | Flux Density Peak (10 -22 W/m 2 Hz) | Flux Density Mean (10 -22 W/m 2 Hz) | Int | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 14 | 245 | SVTO | 8 | S | 1010.0 | 1010.0 | 1.0 | 130.0 | | | QL=4 ST=4 TYP=3 |
| | 204 | IZMI | 42 | SER | 1110.4 | 1110.5 | 2.4 | 30.0 | | | |
| | 127 | TORN | 4 | S/F | 1116.5 | 1117.7 | 1.7 | 120.0 | 60.0 | | DISTURBED |
| | 204 | IZMI | 42 | SER | 1116.6 | 1117.1 | 1.8 | 18.0 | | | |
| | 204 | IZMI | 46 | C | 1121.5 | 1121.6 | 0.8 | 426.0 | | | |
| | 245 | SVTO | 8 | S | 1142.0 | 1142.0 | 1.0 | 270.0 | | | QL=4 ST=2 TYP=3 |
| | 204 | IZMI | 46 | C | 1142.7 | 1142.9 | 0.5 | 183.0 | | | |
| | 127 | TORN | 4 | S/F | 1203.3 | 1204.0U | 1.5 | 190.0 | 40.0 | | DISTURBED |
| | 245 | SGMR | 8 | S | 1447.0 | 1447.0 | U | 100.0 | | | QL=4 ST=3 TYP=3 |
| | 245 | SVTO | 8 | S | 1447.0 | 1447.0 | U | 94.0 | | | QL=4 ST=3 TYP=3 |
| | 245 | SVTO | 8 | S | 1447.0 | 1447.0 | U | 95.0 | | | QL=4 ST=2 TYP=3 |
| | 245 | SGMR | 8 | S | 1604.0 | 1604.0 | U | 100.0 | | | QL=4 ST=2 TYP=3 |
| | 245 | SGMR | 8 | S | 1655.0 | 1655.0 | U | 74.0 | | | QL=4 ST=2 TYP=3 |
| | 245 | SGMR | 48 | C | 1724.0 | 1724.0 | 2.0 | 80.0 | | | QL=4 ST=2 TYP=8 |
| | 245 | SGMR | 8 | S | 1749.0 | 1749.0 | U | 74.0 | | | QL=4 ST=2 TYP=3 |
| | 200 | HIRA | 8 | S | 2230.0 | 2230.0 | 1.0 | 15.0 | | | 0 |
| 15 | 235 | CUBA | 44 | NS | 1335.0E | | 385.0D | | 5.0 | | |
| | 235 | CUBA | 44 | NS | 1335.0E | | 385.0D | | 13.0 | | |
| | 245 | LEAR | 8 | S | 0047.0 | 0047.0 | U | 88.0 | | | QL=4 ST=2 TYP=3 |
| | 245 | LEAR | 8 | S | 0053.0 | 0053.0 | U | 64.0 | | | QL=4 ST=2 TYP=3 |
| | 200 | HIRA | 8 | S | 0140.0 | 0140.0 | 1.0 | 75.0 | | | 0 |
| | 410 | LEAR | 8 | S | 0403.0 | 0403.0 | U | 51.0 | | | QL=4 ST=2 TYP=3 |
| | 410 | LEAR | 8 | S | 0439.0 | 0439.0 | 2.0 | 100.0 | | | QL=4 ST=2 TYP=3 |
| | 410 | LEAR | 48 | C | 0511.0 | 0515.0 | 4.0 | 69.0 | | | QL=4 ST=2 TYP=8 |
| | 204 | IZMI | 7 | C | 0916.7 | 0917.1 | 1.3 | 5.0 | | | |
| | 600 | GORK | 21 | GRF | 1006.0 | 1030.0 | 33.2 | 24.0 | | | |
| | 600 | GORK | 2 | S/F | 1017.4 | 1017.6 | 0.6 | 16.0 | | | |
| | 900 | GORK | 46 | C | 1019.8 | 1021.6 | | 6.0 | | | |
| | 900 | GORK | 46 | C | 1019.8 | 1020.8 | 2.3 | 32.0 | | | |
| | 900 | GORK | 21 | GRF | 1031.1 | 1038.7 | 15.0 | 13.0 | | | |
| | 600 | GORK | 2 | S/F | 1038.5 | 1038.7 | 0.5 | 16.0 | | | |
| | 900 | GORK | 46 | C | 1043.6 | 1045.1 | | 81.0 | | | |
| | 900 | GORK | 46 | C | 1043.6 | 1044.9 | 2.0 | 101.0 | | | |
| | 610 | SVTO | 8 | S | 1140.0 | 1140.0 | U | 77.0 | | | QL=4 ST=2 TYP=3 |
| | 245 | SGMR | 8 | S | 1540.0 | 1540.0 | U | 54.0 | | | QL=4 ST=2 TYP=3 |
| 16 | 127 | TORN | 44 | NS | 0730.0E | | 400.0D | | 22.0 | | V=1 |
| | 235 | CUBA | 44 | NS | 1400.0E | | 360.0D | | 12.0 | | |
| | 2840 | PEKG | 45 | C | 0101.0 | 0106.8 | 11.0 | 23.3 | | | |
| | 2800 | HIRA | 8 | S | 0105.0 | 0107.0 | 7.0 | 30.0 | | | 0 |
| | 500 | HIRA | 8 | S | 0107.0 | 0107.0 | 3.0 | 50.0 | | | 0 |
| | 200 | HIRA | 8 | S | 0107.0 | 0107.0 | 1.0 | 80.0 | | | 0 |
| | 245 | SVTO | 8 | S | 1022.0 | 1022.0 | U | 160.0 | | | QL=4 ST=2 TYP=3 |
| | 245 | SGMR | 8 | S | 1638.0 | 1638.0 | 1.0 | 79.0 | | | QL=4 ST=2 TYP=3 |
| | 2800 | PENT | 20 | GRF | 1849.0 | 1901.0 | 41.0 | 4.0 | | | |
| 17 | 127 | TORN | 44 | NS | 0730.0E | | 400.0D | | 7.0 | | V=0 |
| | 235 | CUBA | 44 | NS | 1400.0E | | 360.0D | | 4.0 | | |
| | 235 | CUBA | 44 | NS | 1400.0E | | 360.0D | | 13.0 | | |
| | 204 | IZMI | 42 | SER | 0733.7 | 0733.8 | 0.2 | 18.0 | | | |
| | 204 | IZMI | 42 | SER | 0745.3 | 0745.3 | 0.2 | 9.0 | | | |
| | 204 | IZMI | 42 | SER | 0823.3 | 0823.4 | 0.6 | 9.0 | | | |
| | 2800 | PENT | 1 | S | 2105.0 | 2109.0 | 8.0 | 3.0 | | | |
| | 410 | PALE | 8 | S | 2348.0 | 2348.0 | 1.0 | 66.0 | | | QL=4 ST=2 TYP=3 |
| 18 | 127 | TORN | 44 | NS | 0730.0E | | 400.0D | | 7.0 | | V=1 |
| | 235 | CUBA | 44 | NS | 1400.0E | | 360.0D | | 3.0 | | |
| | 235 | CUBA | 44 | NS | 1400.0E | | 360.0D | | 12.0 | | |
| | 245 | PALE | 8 | S | 2312.0 | 2312.0 | 2.0 | 63.0 | | | QL=4 ST=2 TYP=3 |
| | 410 | PALE | 8 | S | 2312.0 | 2312.0 | 1.0 | 72.0 | | | QL=4 ST=2 TYP=3 |
| 19 | 127 | TORN | 43 | NS | 0805.0 | | 365.0 | | 11.0 | | V=1 |
| | 235 | CUBA | 44 | NS | 1400.0E | | 240.0D | | 3.0 | | |
| | 235 | CUBA | 44 | NS | 1400.0E | | 240.0D | | 12.0 | | |
| | 200 | HIRA | 8 | S | 0415.0 | 0415.0 | 1.0 | 320.0 | | | 0 |
| | 245 | LEAR | 8 | S | 0415.0 | 0415.0 | U | 120.0 | | | QL=2 ST=2 TYP=3 |
| | 245 | SVTO | 8 | S | 0702.0 | 0702.0 | U | 27.0 | | | QL=2 ST=2 TYP=3 |
| | 410 | SVTO | 8 | S | 0702.0 | 0702.0 | U | 66.0 | | | QL=2 ST=2 TYP=3 |

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

## JANUARY 2003

| Day | Freq | Sta | Type | | Start (UT) | Time of Maximum (UT) | Duration (Min) | Flux Density Peak (10 -22 W/m 2 Hz) | Flux Density Mean (10 -22 W/m 2 Hz) | Int | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 19 | 245 | SVTO | 8 | S | 0757.0 | 0757.0 | 1.0 | 110.0 | | | QL=4 ST=2 TYP=3 |
| | 245 | SVTO | 8 | S | 0757.0 | 0757.0 | 1.0 | 110.0 | | | QL=4 ST=4 TYP=3 |
| | 127 | TORN | 47 | GB | 1136.6 | 1137.0 | 1.4 | | 1900.0 | | DISTURBED |
| | 204 | IZMI | 42 | SER | 1137.1 | 1137.6 | 0.8 | 47.0 | | | |
| | 127 | TORN | 47 | GB | 1251.3 | 1252.1 | 1.6 | 630.0 | 120.0 | | |
| | 610 | SVTO | 8 | S | 1412.0 | 1412.0 | U | 35.0 | | | QL=4 ST=2 TYP=3 |
| | 410 | SGMR | 8 | S | 1413.0 | 1413.0 | 2.0 | 92.0 | | | QL=4 ST=2 TYP=3 |
| | 410 | SVTO | 8 | S | 1413.0 | 1414.0 | 2.0 | 51.0 | | | QL=4 ST=2 TYP=3 |
| | 245 | SVTO | 8 | S | 1520.0 | 1521.0 | 1.0 | 120.0 | | | QL=2 ST=2 TYP=3 |
| | 245 | SVTO | 8 | S | 1520.0 | 1521.0 | 1.0 | 120.0 | | | QL=2 ST=4 TYP=3 |
| | 410 | SVTO | 8 | S | 1521.0 | 1521.0 | U | 24.0 | | | QL=2 ST=2 TYP=3 |
| | 410 | SVTO | 8 | S | 1521.0 | 1521.0 | U | 24.0 | | | QL=2 ST=4 TYP=3 |
| 20 | 127 | TORN | 43 | NS | 1040.0 | | 210.0 | | 8.0 | | V=1,DISTURBED |
| | 235 | CUBA | 44 | NS | 1400.0E | | 360.0D | | 3.0 | | |
| | 235 | CUBA | 44 | NS | 1400.0E | | 360.0D | | 12.0 | | |
| | 2840 | PEKG | 3 | S | 0704.0 | 0709.0 | 18.0 | 23.3 | | | |
| | 500 | HIRA | 8 | S | 0705.0 | 0705.0 | 1.0 | 45.0 | | | 0 |
| | 1415 | LEAR | 8 | S | 0707.0 | 0707.0 | U | 59.0 | | | QL=4 ST=2 TYP=3 |
| | 1415 | SVTO | 8 | S | 0707.0 | 0707.0 | U | 61.0 | | | QL=4 ST=2 TYP=3 |
| | 204 | IZMI | 41 | F | 0708.8 | 0708.9 | 0.7 | 140.0 | | | |
| | 200 | HIRA | 8 | S | 0709.0 | 0709.0 | 1.0 | 65.0 | | | 0 |
| | 204 | IZMI | 42 | SER | 0710.1 | 0710.9 | 4.5 | 67.0 | | | |
| | 245 | SVTO | 8 | S | 0941.0 | 0941.0 | 1.0 | 330.0 | | | QL=4 ST=2 TYP=3 |
| | 410 | SVTO | 8 | S | 0941.0 | 0941.0 | U | 77.0 | | | QL=4 ST=2 TYP=3 |
| | 204 | IZMI | 42 | SER | 1020.9 | 1021.1 | 0.5 | 8.0 | | | |
| | 245 | SGMR | 8 | S | 1620.0 | 1622.0 | 2.0 | 74.0 | | | QL=4 ST=2 TYP=3 |
| | 500 | HIRA | 8 | S | 2325.0 | 2325.0 | 1.0 | 10.0 | | | 0 |
| | 200 | HIRA | 8 | S | 2325.0 | 2325.0 | 1.0 | 55.0 | | | 0 |
| 21 | 235 | CUBA | 44 | NS | 1300.0E | | 390.0D | | 4.0 | | |
| | 235 | CUBA | 44 | NS | 1330.0E | | 390.0D | | 13.0 | | |
| | 2840 | PEKG | 3 | S | 0221.0 | 0225.8 | 17.0 | 75.9 | | | |
| | 2800 | HIRA | 3 | S | 0225.0 | 0226.0 | 5.0 | 65.0 | | | 0 |
| | 500 | HIRA | 4 | S/F | 0225.0 | 0226.0 | 3.0 | 20.0 | | | 0 |
| | 200 | HIRA | 7 | C | 0225.0 | 0225.0 | 3.0 | 110.0 | | | 0 |
| | 245 | LEAR | 8 | S | 0225.0 | 0225.0 | U | 220.0 | | | QL=4 ST=2 TYP=3 |
| | 410 | LEAR | 8 | S | 0225.0 | 0225.0 | U | 76.0 | | | QL=4 ST=2 TYP=3 |
| | 4995 | LEAR | 8 | S | 0225.0 | 0225.0 | 1.0 | 94.0 | | | QL=4 ST=2 TYP=3 |
| | 245 | PALE | 8 | S | 0225.0 | 0225.0 | 1.0 | 300.0 | | | QL=4 ST=2 TYP=3 |
| | 410 | PALE | 8 | S | 0225.0 | 0225.0 | U | 67.0 | | | QL=4 ST=2 TYP=3 |
| | 2695 | PALE | 8 | S | 0225.0 | 0225.0 | 1.0 | 59.0 | | | QL=4 ST=2 TYP=3 |
| | 4995 | PALE | 8 | S | 0225.0 | 0225.0 | 1.0 | 100.0 | | | QL=4 ST=2 TYP=3 |
| | 8800 | PALE | 8 | S | 0225.0 | 0225.0 | U | 52.0 | | | QL=4 ST=2 TYP=3 |
| | 15400 | PALE | 8 | S | 0225.0 | 0225.0 | 1.0 | 52.0 | | | QL=4 ST=2 TYP=3 |
| | 2840 | PEKG | 45 | C | 0547.0 | 0552.5 | 25.0 | 240.0 | | | |
| | 2800 | HIRA | 7 | C | 0552.0 | 0553.0 | 3.0 | 215.0 | | | MR |
| | 500 | HIRA | 8 | S | 0552.0 | 0554.0 | 3.0 | 40.0 | | | 0 |
| | 200 | HIRA | 4 | S/F | 0552.0 | 0553.0 | 3.0 | 115.0 | | | 0 |
| | 2695 | LEAR | 8 | S | 0552.0 | 0552.0 | U | 140.0 | | | QL=4 ST=2 TYP=3 |
| | 2695 | LEAR | 8 | S | 0552.0 | 0552.0 | 1.0 | 140.0 | | | QL=4 ST=3 TYP=3 |
| | 245 | LEAR | 8 | S | 0553.0 | 0553.0 | U | 350.0 | | | QL=4 ST=3 TYP=3 |
| | 410 | LEAR | 8 | S | 0553.0 | 0553.0 | U | 91.0 | | | QL=4 ST=3 TYP=3 |
| | 204 | IZMI | 42 | SER | 0851.1 | 0851.5 | 0.4 | 10.0 | | | |
| | 245 | LEAR | 8 | S | 0853.0 | 0854.0 | 1.0 | 94.0 | | | QL=4 ST=2 TYP=3 |
| | 245 | SVTO | 8 | S | 0853.0 | 0854.0 | 1.0 | 89.0 | | | QL=4 ST=2 TYP=3 |
| | 204 | IZMI | 42 | SER | 1015.6 | 1016.1 | 0.5 | 15.0 | | | |
| | 204 | IZMI | 41 | F | 1146.0 | 1146.1 | 0.3 | 21.0 | | | |
| | 127 | TORN | 45 | C | 1416.0 | 1416.4 | 2.0 | 420.0 | 210.0 | | |
| | 9500 | CUBA | 21 | GRF | 1500.0 | 1528.0 | 82.0 | 51.0 | 25.0 | | |
| | 1415 | SVTO | 48 | C | 1505.0 | 1507.0 | 23.0 | 140.0 | | | QL=2 ST=2 TYP=8 |
| | 1415 | SVTO | 48 | C | 1505.0 | 1507.0 | 23.0 | 140.0 | | | QL=2 ST=3 TYP=8 |
| | 1415 | SVTO | 48 | C | 1505.0 | 1507.0 | 23.0 | 140.0 | | | QL=2 ST=4 TYP=8 |
| | 2695 | SVTO | 48 | C | 1505.0 | 1509.0 | 23.0 | 380.0 | | | QL=2 ST=2 TYP=8 |
| | 2695 | SVTO | 48 | C | 1505.0 | 1509.0 | 23.0 | 380.0 | | | QL=2 ST=3 TYP=8 |
| | 2695 | SVTO | 48 | C | 1505.0 | 1509.0 | 23.0 | 380.0 | | | QL=2 ST=4 TYP=8 |
| | 1415 | SGMR | 48 | C | 1505.0 | 1507.0 | 42.0 | 130.0 | | | QL=4 ST=2 TYP=8 |
| | 2695 | SGMR | 48 | C | 1505.0 | 1509.0 | 42.0 | 380.0 | | | QL=4 ST=2 TYP=8 |
| | 1415 | SGMR | 4 | S/F | 1505.0 | 1507.0 | 535.0 | 100.0 | | | QL=4 ST=1 TYP=3 |

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

## JANUARY 2003

| Day | Freq | Sta | Type | | Start (UT) | Time of Maximum (UT) | Duration (Min) | Flux Density Peak (10 -22 W/m 2 Hz) | Flux Density Mean (10 -22 W/m 2 Hz) | Int | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 21 | 1415 | SGMR | 4 | S/F | 1505.0 | 1507.0 | 535.0 | 130.0 | | | QL=4 ST=1 TYP=3 |
| | 2695 | SGMR | 4 | S/F | 1505.0 | 1507.0 | 535.0 | 210.0 | | | QL=4 ST=1 TYP=3 |
| | 2695 | SGMR | 4 | S/F | 1505.0 | 1509.0 | 535.0 | 380.0 | | | QL=4 ST=1 TYP=3 |
| | 1415 | SVTO | 4 | S/F | 1505.0 | 1507.0 | 535.0 | 99.0 | | | QL=4 ST=1 TYP=3 |
| | 1415 | SVTO | 4 | S/F | 1505.0 | 1507.0 | 535.0 | 140.0 | | | QL=4 ST=1 TYP=3 |
| | 1415 | SVTO | 4 | S/F | 1505.0 | 1507.0 | 535.0 | 140.0 | | | QL=4 ST=4 TYP=3 |
| | 2695 | SVTO | 4 | S/F | 1505.0 | 1507.0 | 535.0 | 170.0 | | | QL=4 ST=1 TYP=3 |
| | 2695 | SVTO | 4 | S/F | 1505.0 | 1509.0 | 535.0 | 380.0 | | | QL=4 ST=1 TYP=3 |
| | 2695 | SVTO | 4 | S/F | 1505.0 | 1509.0 | 535.0 | 380.0 | | | QL=4 ST=4 TYP=3 |
| | 4995 | SVTO | 48 | C | 1506.0 | 1509.0 | 22.0 | 320.0 | | | QL=2 ST=2 TYP=8 |
| | 4995 | SVTO | 48 | C | 1506.0 | 1509.0 | 22.0 | 320.0 | | | QL=2 ST=3 TYP=8 |
| | 4995 | SVTO | 48 | C | 1506.0 | 1509.0 | 22.0 | 320.0 | | | QL=2 ST=4 TYP=8 |
| | 8800 | SVTO | 48 | C | 1506.0 | 1509.0 | 22.0 | 190.0 | | | QL=2 ST=2 TYP=8 |
| | 8800 | SVTO | 48 | C | 1506.0 | 1509.0 | 22.0 | 190.0 | | | QL=2 ST=3 TYP=8 |
| | 8800 | SVTO | 48 | C | 1506.0 | 1509.0 | 22.0 | 190.0 | | | QL=2 ST=4 TYP=8 |
| | 4995 | SGMR | 4 | S/F | 1506.0 | 1510.0 | 40.0 | 260.0 | | | QL=4 ST=2 TYP=3 |
| | 8800 | SGMR | 4 | S/F | 1506.0 | 1510.0 | 41.0 | 180.0 | | | QL=4 ST=2 TYP=3 |
| | 4995 | SGMR | 4 | S/F | 1506.0 | 1507.0 | 534.0 | 110.0 | | | QL=4 ST=1 TYP=3 |
| | 4995 | SGMR | 4 | S/F | 1506.0 | 1510.0 | 534.0 | 260.0 | | | QL=4 ST=1 TYP=3 |
| | 8800 | SGMR | 4 | S/F | 1506.0 | 1507.0 | 534.0 | 59.0 | | | QL=4 ST=1 TYP=3 |
| | 8800 | SGMR | 4 | S/F | 1506.0 | 1510.0 | 534.0 | 180.0 | | | QL=4 ST=1 TYP=3 |
| | 4995 | SVTO | 48 | C | 1506.0 | 1509.0 | 534.0 | 320.0 | | | QL=4 ST=1 TYP=8 |
| | 4995 | SVTO | 48 | C | 1506.0 | 1509.0 | 534.0 | 320.0 | | | QL=4 ST=4 TYP=8 |
| | 8800 | SVTO | 48 | C | 1506.0 | 1509.0 | 534.0 | 190.0 | | | QL=4 ST=1 TYP=8 |
| | 8800 | SVTO | 48 | C | 1506.0 | 1509.0 | 534.0 | 190.0 | | | QL=4 ST=4 TYP=8 |
| | 4995 | SVTO | 4 | S/F | 1506.0 | 1507.0 | 534.0 | 120.0 | | | QL=4 ST=1 TYP=3 |
| | 8800 | SVTO | 4 | S/F | 1506.0 | 1507.0 | 534.0 | 55.0 | | | QL=4 ST=1 TYP=3 |
| | 15400 | SVTO | 48 | C | 1507.0 | 1511.0 | 21.0 | 72.0 | | | QL=2 ST=2 TYP=8 |
| | 15400 | SVTO | 48 | C | 1507.0 | 1511.0 | 21.0 | 72.0 | | | QL=2 ST=3 TYP=8 |
| | 15400 | SVTO | 48 | C | 1507.0 | 1511.0 | 21.0 | 72.0 | | | QL=2 ST=4 TYP=8 |
| | 15400 | SGMR | 48 | C | 1507.0 | 1510.0 | 40.0 | 72.0 | | | QL=4 ST=2 TYP=8 |
| | 15400 | SGMR | 4 | S/F | 1507.0 | 1510.0 | 533.0 | 72.0 | | | QL=4 ST=1 TYP=3 |
| | 15400 | SVTO | 4 | S/F | 1507.0 | 1511.0 | 533.0 | 72.0 | | | QL=4 ST=1 TYP=3 |
| | 15400 | SVTO | 4 | S/F | 1507.0 | 1511.0 | 533.0 | 72.0 | | | QL=4 ST=4 TYP=3 |
| | 9500 | CUBA | 4 | S/F | 1507.0U | 1510.7D | 13.3D | 120.0 | 60.0 | | |
| | 245 | SGMR | 8 | S | 1725.0 | 1725.0 | U | 140.0 | | | QL=4 ST=2 TYP=3 |
| | 245 | PALE | 8 | S | 2138.0 | 2138.0 | U | 200.0 | | | QL=4 ST=2 TYP=3 |
| | 2800 | PENT | 1 | S | 2300.0 | 2304.0 | 8.0 | 11.0 | | | |
| | 200 | HIRA | 8 | S | 2304.0 | 2305.0 | 1.0 | 20.0 | | | 0 |
| 22 | 127 | TORN | 43 | NS | 1246.0 | | 44.0 | | 5.0 | | V=1 |
| | 235 | CUBA | 44 | NS | 1600.0E | | 180.0D | | 3.0 | | |
| | 235 | CUBA | 44 | NS | 1600.0E | | 180.0D | | 10.0 | | |
| | 200 | HIRA | 8 | S | 0300.0 | 0300.0 | 1.0 | 20.0 | | | 0 |
| | 2840 | PEKG | 3 | S | 0437.0 | 0440.7 | 22.0 | 26.8 | | | |
| | 500 | HIRA | 7 | C | 0439.0 | 0441.0 | 3.0 | 20.0 | | | 0 |
| | 2800 | HIRA | 4 | S/F | 0440.0 | 0441.0 | 8.0 | 25.0 | | | 0 |
| | 200 | HIRA | 7 | C | 0441.0 | 0448.0 | 7.0 | 220.0 | | | 0 |
| | 204 | IZMI | 42 | SER | 0714.2 | 0715.1 | 1.3 | 8.0 | | | |
| | 200 | HIRA | 8 | S | 0715.0 | 0715.0 | 1.0 | 30.0 | | | 0 |
| | 204 | IZMI | 41 | F | 0750.0 | 0750.0 | 0.9 | 228.0 | | | |
| | 245 | SVTO | 8 | S | 0750.0 | 0750.0 | U | 120.0 | | | QL=4 ST=2 TYP=3 |
| | 410 | SVTO | 8 | S | 0750.0 | 0750.0 | U | 120.0 | | | QL=4 ST=2 TYP=3 |
| | 15400 | PALE | 8 | S | 1806.0 | 1806.0 | 1.0 | 61.0 | | | QL=4 ST=2 TYP=3 |
| | 245 | LEAR | 8 | S | 2309.0 | 2310.0 | 1.0 | 75.0 | | | QL=4 ST=2 TYP=3 |
| | 200 | HIRA | 8 | S | 2310.0 | 2310.0 | 1.0 | 30.0 | | | 0 |
| | 200 | HIRA | 8 | S | 2316.0 | 2316.0 | 1.0 | 30.0 | | | 0 |
| 23 | 127 | TORN | 43 | NS | 1240.0 | | 120.0D | | 15.0 | | V=1 |
| | 200 | HIRA | 8 | S | 0123.0 | 0123.0 | 1.0 | 40.0 | | | 0 |
| | 2840 | PEKG | 3 | S | 0215.0 | 0216.8 | 10.0 | 41.4 | | | |
| | 2800 | HIRA | 4 | S/F | 0217.0 | 0217.0 | 2.0 | 35.0 | | | 0 |
| | 500 | HIRA | 8 | S | 0217.0 | 0217.0 | 1.0 | 15.0 | | | 0 |
| | 2840 | PEKG | 45 | C | 0423.0 | 0432.4 | 18.0 | 30.5 | | | |
| | 500 | HIRA | 7 | C | 0427.0 | 0432.0 | 7.0 | 75.0 | | | 0 |
| | 200 | HIRA | 7 | C | 0427.0 | 0431.0 | 7.0 | 20.0 | | | 0 |
| | 2800 | HIRA | 3 | S | 0427.0 | 0433.0 | 7.0 | 30.0 | | | 0 |
| | 2840 | PEKG | 3 | S | 0441.0 | 0445.6 | 13.0 | 19.2 | | | |
| | 200 | HIRA | 7 | C | 0443.0 | 0446.0 | 5.0 | 130.0 | | | 0 |

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

## JANUARY 2003

| Day | Freq | Sta | Type | | Start (UT) | Time of Maximum (UT) | Duration (Min) | Flux Density Peak (10 -22 W/m 2 Hz) | Flux Density Mean (10 -22 W/m 2 Hz) | Int | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 23 | 500 | HIRA | 7 | C | 0444.0 | 0446.0 | 4.0 | 300.0 | | | 0 |
| | 2800 | HIRA | 3 | S | 0444.0 | 0446.0 | 5.0 | 20.0 | | | 0 |
| | 204 | IZMI | 41 | F | 0705.4 | 0705.8 | 1.0 | 46.0 | | | |
| | 200 | HIRA | 8 | S | 0706.0 | 0706.0 | 1.0 | 40.0 | | | 0 |
| | 204 | IZMI | 42 | SER | 0804.7 | 0806.9 | 5.8 | 51.0 | | | |
| | 245 | SVTO | 4 | S/F | 0806.0 | 0809.0 | 4.0 | 58.0 | | | QL=4 ST=2 TYP=3 |
| | 127 | TORN | 45 | C | 0806.5 | | 3.8 | 40.0 | 10.0 | | |
| | 245 | SVTO | 8 | S | 0826.0 | 0826.0 | 2.0 | 110.0 | | | QL=4 ST=2 TYP=3 |
| | 410 | SVTO | 8 | S | 0826.0 | 0826.0 | 1.0 | 43.0 | | | QL=4 ST=2 TYP=3 |
| | 245 | SVTO | 4 | S/F | 0837.0 | 0838.0 | 3.0 | 210.0 | | | QL=4 ST=2 TYP=3 |
| | 410 | SVTO | 8 | S | 0838.0 | 0838.0 | 1.0 | 39.0 | | | QL=4 ST=2 TYP=3 |
| | 245 | SVTO | 48 | C | 0843.0 | 0845.0 | 5.0 | 140.0 | | | QL=4 ST=2 TYP=8 |
| | 245 | SVTO | 8 | S | 0907.0 | 0907.0 | 1.0 | 80.0 | | | QL=4 ST=2 TYP=3 |
| | 204 | IZMI | 42 | SER | 1124.5 | 1127.9 | 4.7 | 50.0 | | | |
| | 245 | SVTO | 48 | C | 1236.0 | 1241.0 | 9.0 | 3400.0 | | | QL=4 ST=2 TYP=8 |
| | 410 | SVTO | 48 | C | 1236.0 | 1236.0 | 4.0 | 330.0 | | | QL=4 ST=2 TYP=8 |
| | 610 | SVTO | 4 | S/F | 1236.0 | 1236.0 | 8.0 | 37.0 | | | QL=4 ST=2 TYP=3 |
| | 2695 | SVTO | 4 | S/F | 1236.0 | 1238.0 | 4.0 | 76.0 | | | QL=4 ST=2 TYP=3 |
| | 4995 | SVTO | 4 | S/F | 1236.0 | 1238.0 | 5.0 | 100.0 | | | QL=4 ST=2 TYP=3 |
| | 245 | SVTO | 48 | C | 1236.0 | 1241.0 | 684.0 | 3400.0 | | | QL=4 ST=1 TYP=8 |
| | 410 | SVTO | 48 | C | 1236.0 | 1236.0 | 684.0 | 330.0 | | | QL=4 ST=1 TYP=8 |
| | 610 | SVTO | 4 | S/F | 1236.0 | 1236.0 | 684.0 | 37.0 | | | QL=4 ST=1 TYP=3 |
| | 2695 | SVTO | 4 | S/F | 1236.0 | 1238.0 | 684.0 | 76.0 | | | QL=4 ST=1 TYP=3 |
| | 4995 | SVTO | 4 | S/F | 1236.0 | 1238.0 | 684.0 | 100.0 | | | QL=4 ST=1 TYP=3 |
| | 127 | TORN | 47 | GB | 1236.2 | 1236.3 | 4.0D | 2600.0 | 130.0 | | DISTURBED |
| | 2695 | SGMR | 4 | S/F | 1237.0 | 1238.0 | 3.0 | 68.0 | | | QL=4 ST=2 TYP=3 |
| | 1415 | SVTO | 4 | S/F | 1237.0 | 1239.0 | 3.0 | 33.0 | | | QL=4 ST=2 TYP=3 |
| | 8800 | SVTO | 4 | S/F | 1237.0 | 1238.0 | 14.0 | 77.0 | | | QL=4 ST=2 TYP=3 |
| | 1415 | SVTO | 4 | S/F | 1237.0 | 1239.0 | 683.0 | 33.0 | | | QL=4 ST=1 TYP=3 |
| | 8800 | SVTO | 4 | S/F | 1237.0 | 1238.0 | 683.0 | 77.0 | | | QL=4 ST=1 TYP=3 |
| | 4995 | SGMR | 8 | S | 1238.0 | 1238.0 | 1.0 | 57.0 | | | QL=4 ST=2 TYP=3 |
| | 15400 | SVTO | 4 | S/F | 1238.0 | 1239.0 | 8.0 | 35.0 | | | QL=4 ST=2 TYP=3 |
| | 15400 | SVTO | 4 | S/F | 1238.0 | 1239.0 | 682.0 | 35.0 | | | QL=4 ST=1 TYP=3 |
| | 245 | SVTO | 8 | S | 1442.0 | 1442.0 | U | 230.0 | | | QL=4 ST=2 TYP=3 |
| 24 | 127 | TORN | 43 | NS | 0757.0 | | 53.0 | | 19.0 | | V=1 |
| | 127 | TORN | 43 | NS | 1133.0 | | 177.0 | | 8.0 | | V=1 |
| | 235 | CUBA | 44 | NS | 1320.0E | | 280.0D | | 12.0 | | |
| | 235 | CUBA | 44 | NS | 1320.0E | | 340.0D | | 3.0 | | |
| | 2840 | PEKG | 45 | C | 0310.0 | 0322.0 | 36.0 | 140.0 | | | |
| | 245 | PALE | 48 | C | 0312.0 | 0324.0 | 29.0 | 9000.0 | | | QL=4 ST=2 TYP=8 |
| | 245 | PALE | 48 | C | 0312.0 | 0320.0 | 1248.0 | 1100.0 | | | QL=4 ST=1 TYP=8 |
| | 4995 | LEAR | 48 | C | 0317.0 | 0318.0 | 9.0 | 120.0 | | | QL=4 ST=2 TYP=8 |
| | 2800 | HIRA | 7 | C | 0317.0 | 0322.0 | 14.0 | 100.0 | | | 0 |
| | 500 | HIRA | 47 | GB | 0317.0 | 0323.0 | 17.0 | 3070.0 | | | 0 |
| | 4995 | LEAR | 4 | S/F | 0317.0 | 0318.0 | 1243.0 | 120.0 | | | QL=4 ST=1 TYP=3 |
| | 1415 | LEAR | 48 | C | 0318.0 | 0326.0 | 8.0 | 120.0 | | | QL=4 ST=2 TYP=8 |
| | 2695 | LEAR | 4 | S/F | 0318.0 | 0322.0 | 6.0 | 97.0 | | | QL=4 ST=2 TYP=3 |
| | 8800 | LEAR | 4 | S/F | 0318.0 | 0318.0 | 6.0 | 82.0 | | | QL=4 ST=2 TYP=3 |
| | 1415 | PALE | 48 | C | 0318.0 | 0326.0 | 9.0 | 140.0 | | | QL=4 ST=2 TYP=8 |
| | 2695 | PALE | 48 | C | 0318.0 | 0322.0 | 9.0 | 100.0 | | | QL=4 ST=2 TYP=8 |
| | 4995 | PALE | 48 | C | 0318.0 | 0319.0 | 9.0 | 140.0 | | | QL=4 ST=2 TYP=8 |
| | 245 | LEAR | 48 | C | 0318.0 | 0324.0 | 17.0 | 7200.0 | | | QL=4 ST=2 TYP=8 |
| | 610 | PALE | 48 | C | 0318.0 | 0324.0 | 11.0 | 640.0 | | | QL=4 ST=2 TYP=8 |
| | 410 | PALE | 49 | GB | 0318.0 | 0323.0 | 14.0 | 12000.0 | | | QL=4 ST=2 TYP=6 |
| | 245 | LEAR | 48 | C | 0318.0 | 0322.0 | 1242.0 | 1100.0 | | | QL=4 ST=1 TYP=8 |
| | 245 | LEAR | 48 | C | 0318.0 | 0324.0 | 1242.0 | 5600.0 | | | QL=4 ST=1 TYP=8 |
| | 1415 | LEAR | 48 | C | 0318.0 | 0321.0 | 1242.0 | 120.0 | | | QL=4 ST=1 TYP=8 |
| | 1415 | LEAR | 4 | S/F | 0318.0 | 0321.0 | 1242.0 | 120.0 | | | QL=4 ST=1 TYP=3 |
| | 2695 | LEAR | 4 | S/F | 0318.0 | 0322.0 | 1242.0 | 97.0 | | | QL=4 ST=1 TYP=3 |
| | 8800 | LEAR | 4 | S/F | 0318.0 | 0318.0 | 1242.0 | 82.0 | | | QL=4 ST=1 TYP=3 |
| | 610 | PALE | 48 | C | 0318.0 | 0321.0 | 1242.0 | 480.0 | | | QL=4 ST=1 TYP=8 |
| | 410 | PALE | 49 | GB | 0318.0 | 0322.0 | 1242.0 | 3100.0 | | | QL=4 ST=1 TYP=6 |
| | 1415 | PALE | 4 | S/F | 0318.0 | 0322.0 | 1242.0 | 110.0 | | | QL=4 ST=1 TYP=3 |
| | 2695 | PALE | 4 | S/F | 0318.0 | 0322.0 | 1242.0 | 100.0 | | | QL=4 ST=1 TYP=3 |
| | 4995 | PALE | 4 | S/F | 0318.0 | 0319.0 | 1242.0 | 140.0 | | | QL=4 ST=1 TYP=3 |
| | 8800 | PALE | 8 | S | 0319.0 | 0319.0 | 1.0 | 62.0 | | | QL=4 ST=2 TYP=3 |
| | 8800 | PALE | 4 | S/F | 0319.0 | 0319.0 | 4.0 | 62.0 | | | QL=4 ST=2 TYP=3 |
| | 200 | HIRA | 47 | GB | 0319.0 | 0321.0 | 22.0 | 1230.0 | | | 0 |

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

## JANUARY 2003

| Day | Freq | Sta | Type | | Start (UT) | Time of Maximum (UT) | Duration (Min) | Flux Density Peak (10 -22 W/m 2 Hz) | Flux Density Mean (10 -22 W/m 2 Hz) | Int | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 24 | 500 | HIRA | 7 | C | 0342.0 | 0344.0 | 5.0 | 45.0 | | | 0 |
| | 245 | PALE | 48 | C | 0342.0 | 0343.0 | 6.0 | 100.0 | | | QL=4 ST=2 TYP=8 |
| | 410 | PALE | 8 | S | 0342.0 | 0343.0 | 2.0 | 86.0 | | | QL=4 ST=2 TYP=3 |
| | 2840 | PEKG | 45 | C | 0457.0 | 0503.8 | 15.0 | 3.9 | | | |
| | 204 | IZMI | 7 | C | 0946.9 | 0946.9 | 0.1 | 9.0 | | | |
| | 204 | IZMI | 7 | C | 0954.7 | 0954.8 | 0.2 | 11.0 | | | |
| | 410 | SGMR | 8 | S | 1543.0 | 1543.0 | 1.0 | 47.0 | | | QL=4 ST=2 TYP=3 |
| | 610 | SGMR | 8 | S | 1543.0 | 1543.0 | 1.0 | 120.0 | | | QL=4 ST=2 TYP=3 |
| | 2695 | SGMR | 8 | S | 1543.0 | 1543.0 | 1.0 | 54.0 | | | QL=4 ST=2 TYP=3 |
| | 200 | HIRA | 8 | S | 2301.0 | 2301.0 | 1.0 | 20.0 | | | 0 |
| 25 | 127 | TORN | 43 | NS | 0757.0 | | 363.0 | | 8.0 | | V=1 |
| | 235 | CUBA | 44 | NS | 1420.0E | | 450.0D | | 5.0 | | |
| | 235 | CUBA | 44 | NS | 1420.0E | | 450.0D | | 12.0 | | |
| | 500 | HIRA | 8 | S | 0514.0 | 0514.0 | 1.0 | 15.0 | | | |
| | 204 | IZMI | 42 | SER | 0801.4 | 0810.1 | 17.5 | 25.0 | | | |
| | 204 | IZMI | 42 | SER | 0825.7 | 0826.4 | 0.9 | 27.0 | | | |
| | 204 | IZMI | 42 | SER | 0909.4 | 0909.5 | 0.5 | 19.0 | | | |
| | 204 | IZMI | 41 | F | 0923.3 | 0923.4 | 0.4 | 10.0 | | | |
| | 33 | UPIC | 46 | C | 1124.5 | 1125.5 | 2.0 | | | | |
| | 204 | IZMI | 41 | F | 1124.6 | 1125.2 | 1.0 | 32.0 | | | |
| | 33 | UPIC | 46 | C | 1324.0 | 1325.5 | 4.5 | | | | |
| | 410 | SGMR | 8 | S | 1328.0 | 1328.0 | 1.0 | 71.0 | | | QL=4 ST=2 TYP=3 |
| | 245 | SGMR | 4 | S/F | 1328.0 | 1328.0 | 3.0 | 110.0 | | | QL=4 ST=2 TYP=3 |
| | 245 | SVTO | 8 | S | 1328.0 | 1328.0 | U | 74.0 | | | QL=4 ST=2 TYP=3 |
| | 410 | SVTO | 8 | S | 1328.0 | 1328.0 | U | 62.0 | | | QL=4 ST=2 TYP=3 |
| | 2800 | PENT | 29 | PBI | 1831.0 | 1851.0 | 61.0U | 223.0 | | | |
| | 610 | PALE | 49 | GB | 1844.0 | 1850.0 | 8.0 | 970.0 | | | QL=4 ST=2 TYP=6 |
| | 410 | SGMR | 48 | C | 1844.0 | 1847.0 | 17.0 | 400.0 | | | QL=4 ST=2 TYP=8 |
| | 610 | SGMR | 49 | GB | 1844.0 | 1849.0 | 14.0 | 1200.0 | | | QL=4 ST=2 TYP=6 |
| | 610 | PALE | 49 | GB | 1844.0 | 1850.0 | 316.0 | 970.0 | | | QL=4 ST=1 TYP=6 |
| | 410 | SGMR | 48 | C | 1844.0 | 1847.0 | 316.0 | 400.0 | | | QL=4 ST=1 TYP=8 |
| | 610 | SGMR | 49 | GB | 1844.0 | 1848.0 | 316.0 | 860.0 | | | QL=4 ST=1 TYP=6 |
| | 610 | SGMR | 49 | GB | 1844.0 | 1849.0 | 316.0 | 1200.0 | | | QL=4 ST=1 TYP=6 |
| | 410 | PALE | 48 | C | 1845.0 | 1848.0 | 15.0 | 410.0 | | | QL=4 ST=2 TYP=8 |
| | 1415 | SGMR | 48 | C | 1845.0 | 1851.0 | 14.0 | 170.0 | | | QL=4 ST=2 TYP=8 |
| | 2695 | SGMR | 4 | S/F | 1845.0 | 1851.0 | 13.0 | 190.0 | | | QL=4 ST=2 TYP=3 |
| | 410 | PALE | 48 | C | 1845.0 | 1848.0 | 315.0 | 410.0 | | | QL=4 ST=1 TYP=8 |
| | 1415 | SGMR | 4 | S/F | 1845.0 | 1848.0 | 315.0 | 150.0 | | | QL=4 ST=1 TYP=3 |
| | 2695 | SGMR | 4 | S/F | 1845.0 | 1847.0 | 315.0 | 85.0 | | | QL=4 ST=1 TYP=3 |
| | 2695 | SGMR | 4 | S/F | 1845.0 | 1850.0 | 315.0 | 130.0 | | | QL=4 ST=1 TYP=3 |
| | 245 | SGMR | 4 | S/F | 1846.0 | 1850.0 | 15.0 | 89.0 | | | QL=4 ST=2 TYP=3 |
| | 4995 | SGMR | 4 | S/F | 1846.0 | 1851.0 | 15.0 | 170.0 | | | QL=4 ST=2 TYP=3 |
| | 8800 | SGMR | 4 | S/F | 1846.0 | 1851.0 | 15.0 | 120.0 | | | QL=4 ST=2 TYP=3 |
| | 245 | SGMR | 4 | S/F | 1846.0 | 1849.0 | 314.0 | 61.0 | | | QL=4 ST=1 TYP=3 |
| | 245 | SGMR | 4 | S/F | 1846.0 | 1850.0 | 314.0 | 89.0 | | | QL=4 ST=1 TYP=3 |
| | 4995 | SGMR | 4 | S/F | 1846.0 | 1847.0 | 314.0 | 71.0 | | | QL=4 ST=1 TYP=3 |
| | 4995 | SGMR | 4 | S/F | 1846.0 | 1850.0 | 314.0 | 130.0 | | | QL=4 ST=1 TYP=3 |
| | 8800 | SGMR | 4 | S/F | 1846.0 | 1848.0 | 314.0 | 41.0 | | | QL=4 ST=1 TYP=3 |
| | 8800 | SGMR | 4 | S/F | 1846.0 | 1850.0 | 314.0 | 93.0 | | | QL=4 ST=1 TYP=3 |
| | 235 | CUBA | 7 | C | 1846.4 | 1855.1 | 33.4 | 15.0 | 7.0 | | |
| | 235 | CUBA | 7 | C | 1846.4 | 1855.1 | 33.4 | 31.0 | 15.0 | | |
| | 1415 | PALE | 48 | C | 1847.0 | 1852.0 | 8.0 | 120.0 | | | QL=4 ST=2 TYP=8 |
| | 1415 | PALE | 4 | S/F | 1847.0 | 1849.0 | 313.0 | 96.0 | | | QL=4 ST=1 TYP=3 |
| | 15400 | SGMR | 4 | S/F | 1849.0 | 1851.0 | 11.0 | 59.0 | | | QL=4 ST=2 TYP=3 |
| | 15400 | SGMR | 4 | S/F | 1849.0 | 1850.0 | 311.0 | 44.0 | | | QL=4 ST=1 TYP=3 |
| | 2695 | PALE | 4 | S/F | 1850.0 | 1852.0 | 5.0 | 130.0 | | | QL=4 ST=2 TYP=3 |
| | 4995 | PALE | 4 | S/F | 1851.0 | 1852.0 | 4.0 | 110.0 | | | QL=4 ST=2 TYP=3 |
| | 8800 | PALE | 4 | S/F | 1852.0 | 1853.0 | 3.0 | 89.0 | | | QL=4 ST=2 TYP=3 |
| 26 | 127 | TORN | 43 | NS | 0955.0 | | 59.0 | | 11.0 | | V=1 |
| | 235 | CUBA | 44 | NS | 1400.0E | | 300.0D | | 3.0 | | |
| | 235 | CUBA | 44 | NS | 1400.0E | | 300.0D | | 12.0 | | |
| | 245 | SVTO | 8 | S | 0802.0 | 0802.0 | 2.0 | 66.0 | | | QL=4 ST=2 TYP=3 |
| | 33 | UPIC | 41 | F | 1022.5 | 1023.5 | 18.0 | | | | |
| | 3000 | IZMI | 40 | F | 1023.4 | 1030.5 | 7.3 | 12.0 | | | |
| | 2950 | GORK | 23 | GRF | 1024.0 | 1038.3 | | 87.0 | | | |
| | 900 | GORK | 40 | F | 1024.0 | 1037.3 | 16.4 | 20.0 | | | |
| | 2950 | GORK | 23 | GRF | 1024.0 | 1037.3 | 21.0 | 75.0 | | | |

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

## JANUARY 2003

| Day | Freq | Sta | Type | | Start (UT) | Time of Maximum (UT) | Duration (Min) | Flux Density Peak (10 -22 W/m 2 Hz) | Flux Density Mean (10 -22 W/m 2 Hz) | Int | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 26 | 2950 | GORK | 41 | F | 1026.4 | 1031.5 | 5.1 | 44.0 | | | |
| | 2950 | GORK | 41 | F | 1026.4 | 1033.6 | | 50.0 | | | |
| | 600 | GORK | 40 | F | 1028.7 | 1031.2 | 16.0 | 27.0 | | | |
| | 204 | IZMI | 41 | F | 1029.9 | 1031.2 | 1.9 | 132.0 | | | |
| | 127 | TORN | 47 | GB | 1030.5 | 1035.6 | 8.0 | 1200.0 | 340.0 | | |
| | 3000 | IZMI | 45 | C | 1031.1 | 1038.6 | 12.7 | 22.0 | 7.5 | | |
| | 9100 | GORK | 20 | GRF | 1031.2 | 1038.7 | 19.8D | 14.0 | | | |
| | 204 | IZMI | 42 | SER | 1033.1 | 1035.6 | 11.7 | 39.0 | | | |
| 27 | 235 | CUBA | 44 | NS | 1330.0E | | 390.0D | | 5.0 | | |
| | 235 | CUBA | 44 | NS | 1330.0E | | 390.0D | | 13.0 | | |
| | 200 | HIRA | 8 | S | 0339.0 | 0339.0 | 1.0 | 25.0 | | | 0 |
| | 204 | IZMI | 42 | SER | 0800.5 | 0802.5 | 2.6 | 29.0 | | | |
| | 245 | SVTO | 8 | S | 0821.0 | 0821.0 | U | 62.0 | | | QL=4 ST=2 TYP=3 |
| | 410 | SVTO | 8 | S | 0821.0 | 0821.0 | U | 25.0 | | | QL=4 ST=2 TYP=3 |
| | 204 | IZMI | 7 | C | 1016.9 | 1016.9 | 0.1 | 13.0 | | | |
| | 204 | IZMI | 41 | F | 1146.3 | 1146.8 | 1.2 | 186.0 | | | |
| 28 | 127 | TORN | 43 | NS | 0800.0 | | 410.0 | | 6.0 | | V=0 |
| | 235 | CUBA | 44 | NS | 1400.0E | | 420.0D | | 3.0 | | |
| | 235 | CUBA | 44 | NS | 1400.0E | | 420.0D | | 10.0 | | |
| | 127 | TORN | 42 | SER | 0812.4 | 0818.1 | 10.0 | | | | |
| | 245 | LEAR | 8 | S | 0817.0 | 0817.0 | U | 120.0 | | | QL=4 ST=2 TYP=3 |
| | 245 | SVTO | 8 | S | 0817.0 | 0817.0 | U | 110.0 | | | QL=4 ST=2 TYP=3 |
| | 204 | IZMI | 42 | SER | 0822.0 | 0823.1 | 7.3 | 13.0 | | | |
| | 204 | IZMI | 42 | SER | 1011.2 | 1012.2 | 1.0 | 41.0 | | | |
| 29 | 235 | CUBA | 44 | NS | 1325.0E | | 305.0D | | 4.0 | | |
| | 235 | CUBA | 44 | NS | 1325.0E | | 305.0D | | 13.0 | | |
| | 200 | HIRA | 47 | GB | 0625.0 | 0625.0 | 1.0 | 1310.0 | | | 0 |
| | 127 | TORN | 47 | GB | 0953.1 | 0953.7 | 2.5 | | 660.0 | | |
| | 204 | IZMI | 42 | SER | 0953.2 | 0954.6 | 2.4 | 55.0 | | | |
| | 245 | LEAR | 8 | S | 1031.0 | 1031.0 | U | 130.0 | | | QL=4 ST=2 TYP=3 |
| 30 | 235 | CUBA | 44 | NS | 1330.0E | | 390.0D | | 10.0 | | |
| 31 | 127 | TORN | 43 | NS | 1200.0 | | 170.0 | | 8.0 | | V=1 |
| | 235 | CUBA | 44 | NS | 1600.0E | | 120.0D | | 6.0 | | |
| | 235 | CUBA | 44 | NS | 1600.0E | | 120.0D | | 14.0 | | |

Reports are received routinely from the following observatories:

| | | | |
|---|---|---|---|
| BERN = Berne | HUMN = Humain | ONDR = Ondrejov | SVTO = San Vito |
| CRIM = Crimea | IZMI = IZMIRAN | PEKG = Peking | TORN = Torun |
| CUBA = Havana | KISV = Kislovodsk | PALE = Palehua | TRST = Trieste |
| GORK = Gorky | KRAK = Krakow | PENT = Penticton | TYKW = Toyokawa |
| HIRA = Hiraiso | LEAR = Learmonth | POTS = Potsdam | UPIC = Upice |
| HUAN = Huancayo | NOBE = Nobeyama | SGMR = Sagamore Hill | |

Explanation of Type Code:

| | | | | |
|---|---|---|---|---|
| 1 Simple 1 | 7 Minor + | 24 Rise | 30 Post Burst Increase A | 43 Onset of Noise Storm |
| 2 Simple 1F | 8 Spike | 25 Rise A | 31 Post Burst Decrease | 44 Noise Storm in Progress |
| 3 Simple 2 | 20 Simple 3 | 26 Fall | 33 Absorption | 45 Complex |
| 4 Simple 2F | 21 Simple 3A | 27 Rise and Fall | 40 Fluctuation | 46 Complex F |
| 5 Simple | 22 Simple 3F | 28 Precusor | 41 Group of Bursts | 47 Great Burst |
| 6 Minor | 23 Simple 3AF | 29 Post Burst Increase | 42 Series of Bursts | 48 Major |

| | | | |
|---|---|---|---|
| 1A Simple 1A | 4A Simple 2AF | 24PF Post Rise F | 27F Rise and Fall F |
| 3A Simple 2A | 40 Rise Only | 16A Fall A | 27AF Rise and Fall AF |
| 21A Simple 3A GRF | 40F Rise Only F | 260 Fall Only | 31A Post Burst Decrease A |
| 2A Simple 1AF | 4P Post Rise | 26F Fall F | 32A Absorption A |

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