

**URAN**

| M<br>2011 | d  | Wsch.             | Kulm.              | Zach. | A           | $\alpha$          | $\delta$ | D   | V   | $\Delta I$ |
|-----------|----|-------------------|--------------------|-------|-------------|-------------------|----------|-----|-----|------------|
|           |    | $\lambda=0^\circ$ | $\varphi=50^\circ$ |       |             | 0 <sup>h</sup> UT |          |     |     |            |
|           |    | h m               | h m                | h m   | $\pm^\circ$ | h m               | ° ' "    | "   | m   | °          |
| I         | 0  | 11 16             | 17 10              | 23 04 | 88          | 23 49.9           | - 1 54   | 3.5 | 5.9 | 78         |
|           | 8  | 10 45             | 16 39              | 22 33 | 88          | 23 50.6           | - 1 49   | 3.4 | 5.9 | 70         |
|           | 16 | 10 14             | 16 09              | 22 03 | 88          | 23 51.5           | - 1 43   | 3.4 | 5.9 | 62         |
|           | 24 | 9 43              | 15 38              | 21 33 | 88          | 23 52.6           | - 1 36   | 3.4 | 5.9 | 54         |
| II        | 1  | 9 12              | 15 08              | 21 04 | 88          | 23 53.8           | - 1 27   | 3.4 | 5.9 | 46         |
|           | 9  | 8 41              | 14 38              | 20 34 | 89          | 23 55.1           | - 1 19   | 3.4 | 5.9 | 38         |
|           | 17 | 8 11              | 14 08              | 20 05 | 89          | 23 56.5           | - 1 09   | 3.3 | 5.9 | 31         |
|           | 25 | 7 40              | 13 38              | 19 36 | 89          | 23 58.1           | - 0 59   | 3.3 | 5.9 | 23         |
| III       | 5  | 7 09              | 13 08              | 19 07 | 89          | 23 59.7           | - 0 48   | 3.3 | 5.9 | 16         |
|           | 13 | 6 39              | 12 38              | 18 38 | 90          | 0 01.3            | - 0 38   | 3.3 | 5.9 | 8          |
|           | 21 | 6 08              | 12 08              | 18 09 | 90          | 0 03.0            | - 0 27   | 3.3 | 5.9 | 1          |
|           | 29 | 5 37              | 11 39              | 17 40 | 90          | 0 04.7            | - 0 16   | 3.3 | 5.9 | -7         |
| IV        | 6  | 5 07              | 11 09              | 17 11 | 91          | 0 06.3            | - 0 05   | 3.3 | 5.9 | -14        |
|           | 14 | 4 36              | 10 39              | 16 42 | 91          | 0 07.9            | 0 05     | 3.3 | 5.9 | -22        |
|           | 22 | 4 05              | 10 09              | 16 13 | 91          | 0 09.5            | 0 15     | 3.3 | 5.9 | -29        |
|           | 30 | 3 35              | 9 39               | 15 44 | 91          | 0 11.0            | 0 25     | 3.4 | 5.9 | -37        |
| V         | 8  | 3 04              | 9 09               | 15 14 | 92          | 0 12.3            | 0 34     | 3.4 | 5.9 | -44        |
|           | 16 | 2 33              | 8 39               | 14 45 | 92          | 0 13.6            | 0 41     | 3.4 | 5.9 | -51        |
|           | 24 | 2 02              | 8 08               | 14 15 | 92          | 0 14.7            | 0 49     | 3.4 | 5.9 | -59        |
| VI        | 1  | 1 31              | 7 38               | 13 45 | 92          | 0 15.7            | 0 55     | 3.4 | 5.9 | -66        |
|           | 9  | 1 00              | 7 07               | 13 15 | 92          | 0 16.5            | 1 00     | 3.4 | 5.9 | -74        |
|           | 17 | 0 29              | 6 36               | 12 44 | 92          | 0 17.1            | 1 03     | 3.5 | 5.9 | -81        |
|           | 25 | 23 54             | 6 05               | 12 13 | 92          | 0 17.6            | 1 06     | 3.5 | 5.8 | -89        |
| VII       | 3  | 23 22             | 5 34               | 11 42 | 92          | 0 17.9            | 1 08     | 3.5 | 5.8 | -96        |
|           | 11 | 22 51             | 5 03               | 11 11 | 92          | 0 17.9            | 1 08     | 3.5 | 5.8 | -104       |
|           | 19 | 22 20             | 4 31               | 10 39 | 92          | 0 17.8            | 1 07     | 3.6 | 5.8 | -111       |
|           | 27 | 21 48             | 4 00               | 10 07 | 92          | 0 17.5            | 1 05     | 3.6 | 5.8 | -119       |
| VIII      | 4  | 21 16             | 3 28               | 9 35  | 92          | 0 17.1            | 1 01     | 3.6 | 5.8 | -127       |
|           | 12 | 20 45             | 2 56               | 9 03  | 92          | 0 16.4            | 0 57     | 3.6 | 5.8 | -135       |
|           | 20 | 20 13             | 2 23               | 8 30  | 92          | 0 15.6            | 0 52     | 3.6 | 5.7 | -143       |
|           | 28 | 19 41             | 1 51               | 7 57  | 92          | 0 14.7            | 0 45     | 3.6 | 5.7 | -151       |
| IX        | 5  | 19 09             | 1 18               | 7 24  | 92          | 0 13.7            | 0 39     | 3.7 | 5.7 | -159       |
|           | 13 | 18 37             | 0 46               | 6 51  | 91          | 0 12.6            | 0 31     | 3.7 | 5.7 | -167       |
|           | 21 | 18 05             | 0 13               | 6 18  | 91          | 0 11.4            | 0 24     | 3.7 | 5.7 | -175       |
|           | 29 | 17 33             | 23 37              | 5 44  | 91          | 0 10.2            | 0 16     | 3.7 | 5.7 | 177        |
| X         | 7  | 17 01             | 23 04              | 5 11  | 91          | 0 09.1            | 0 09     | 3.7 | 5.7 | 169        |
|           | 15 | 16 29             | 22 31              | 4 38  | 91          | 0 08.0            | 0 01     | 3.7 | 5.7 | 161        |
|           | 23 | 15 57             | 21 59              | 4 05  | 91          | 0 06.9            | - 0 05   | 3.6 | 5.7 | 152        |
|           | 31 | 15 25             | 21 27              | 3 32  | 90          | 0 05.9            | - 0 11   | 3.6 | 5.7 | 144        |
| XI        | 8  | 14 53             | 20 54              | 3 00  | 90          | 0 05.1            | - 0 16   | 3.6 | 5.8 | 136        |
|           | 16 | 14 21             | 20 22              | 2 27  | 90          | 0 04.5            | - 0 20   | 3.6 | 5.8 | 128        |
|           | 24 | 13 50             | 19 50              | 1 55  | 90          | 0 04.0            | - 0 23   | 3.6 | 5.8 | 119        |
| XII       | 2  | 13 18             | 19 18              | 1 23  | 90          | 0 03.6            | - 0 25   | 3.6 | 5.8 | 111        |
|           | 10 | 12 46             | 18 47              | 0 51  | 90          | 0 03.5            | - 0 25   | 3.5 | 5.8 | 103        |
|           | 18 | 12 15             | 18 16              | 0 20  | 90          | 0 03.6            | - 0 24   | 3.5 | 5.8 | 95         |
|           | 26 | 11 44             | 17 44              | 23 45 | 90          | 0 03.9            | - 0 22   | 3.5 | 5.8 | 87         |
| 2012 I    | 3  | 11 12             | 17 13              | 23 15 | 90          | 0 04.4            | - 0 19   | 3.5 | 5.9 | 79         |