

# Mond- und Dämmerungstabelle 2025

## für die visuelle Deep-Sky-Beobachtung

Remscheid 51.1783° N 7.1994° E

Berechnung: pyEphem  
Textsatz: L<sup>A</sup>T<sub>E</sub>X

### Atmosphären-Einstellungen in pyEphem

Standort.pressure = 1010.0  
Standort.horizon = '0:00:00.0'

Alle Zeitangaben beziehen sich auf den in der jeweiligen Zeile angegeben Kalendertag. Liegt ein Ereignis bereits nach Mitternacht, also schon am Folgetag, ist die Zeitangabe mit einem \* gekennzeichnet, z.B.: 00:20\*.

**Spalte 1** Kalendertag.

**Spalte 2** Bei »MESZ« sind alle Zeitangaben in dieser Zeile in Mitteleuropäischer Sommerzeit, ansonsten standardmäßig in MEZ.

**Spalte 3** Die für Deep-Sky-Beobachtungen nutzbare Zeitspanne: Es ist astronomisch dunkel (Sonne steht tiefer als  $-18^\circ$ ) und kein Mond stört.

**Spalte 4** Dauer der für Deep-Sky-Beobachtungen nutzbaren Zeitspanne.

**Spalte 5** Ereignisse, die die für Deep-Sky-Beobachtungen nutzbare Zeitspanne begrenzen: AN<sub>+</sub> (Einbruch der astronomischen Nacht = Ende der astr. Abenddämmerung), M<sub>v</sub> (Monduntergang), AN<sub>-</sub> (Ende der astronomischen Nacht = Beginn der astr. Morgendämmerung), M<sub>7</sub>

(Mondaufgang), Astr. MD (Astronomische Mitternachtsdämmerung), Naut. MD (Nautische Mitternachtsdämmerung).

**Spalte 6** Mondphase.

**Spalte 7** Mondaufgang.

**Spalte 8** Monduntergang.

**Spalte 9** Beginn der astr. Morgendämmerung (Sonnenhöhe =  $-18^\circ$ ).

**Spalte 10** Dauer der astr. Morgendämmerung.

**Spalte 11** Beginn der naut. Morgendämmerung (Sonnenhöhe =  $-12^\circ$ ).

**Spalte 12** Dauer der naut. Morgendämmerung.

**Spalte 13** Beginn der bürg. Morgendämmerung (Sonnenhöhe =  $-6^\circ$ ).

**Spalte 14** Dauer der bürg. Morgendämmerung.

**Spalte 15** Sonnenaufgang.

**Spalte 16** Taglänge.

**Spalte 17** Sonnenuntergang.

**Spalte 18** Dauer der bürg. Abenddämmerung.

**Spalte 19** Ende der bürg. Abenddämmerung (Sonnenhöhe =  $-6^\circ$ ).

**Spalte 20** Dauer der naut. Abenddämmerung.

**Spalte 21** Ende der naut. Abenddämmerung (Sonnenhöhe =  $-12^\circ$ ).

**Spalte 22** Dauer der astr. Abenddämmerung.

**Spalte 23** Ende der astr. Abenddämmerung (Sonnenhöhe =  $-18^\circ$ ).

**Spalte 24** Länge der Nacht.

**Spalte 25** Länge der astr. Nacht.

**Für Beobachter, die zu Zeiten der Mitternachtsdämmerung während der astr. Dämmerung beobachten möchten:**

**Spalte 26** Nutzbare Zeitspanne: Es ist »nautisch dunkel« (Sonne steht tiefer als  $-12^\circ$ ) und kein Mond stört.

**Spalte 27** Dauer der in Spalte 26 angegebenen Zeitspanne.

**Spalte 28** Ereignisse, die die nutzbare Zeitspanne begrenzen: ND<sub>+</sub> (Beginn der »naut. Dunkelheit« = Ende der naut. Abenddämmerung), M<sub>v</sub> (Monduntergang), ND<sub>-</sub> (Ende der »naut. Dunkelheit« = Beginn der naut. Morgendämmerung), M<sub>7</sub> (Mondaufgang), Naut. MD (Nautische Mitternachtsdämmerung).

**Spalte 29** Identisch zu Spalte 1.

| 1           | 2             | 3                          | 4          | 5                                   | 6    | 7          | 8          | 9                          | 10         | 11    | 12         | 13    | 14         | 15         | 16         | 17                      | 18         | 19    | 20         | 21    | 22         | 23       | 24                         | 25         | 26 | 27         | 28 | 29 |             |
|-------------|---------------|----------------------------|------------|-------------------------------------|------|------------|------------|----------------------------|------------|-------|------------|-------|------------|------------|------------|-------------------------|------------|-------|------------|-------|------------|----------|----------------------------|------------|----|------------|----|----|-------------|
| 2025        | Zeit-<br>zone | Astr. dunkel und kein Mond |            |                                     | Mond |            |            | Beginn der Morgendämmerung |            |       |            |       | Sonne      |            |            | Ende der Abenddämmerung |            |       |            |       | Nacht      | Astr. N. | Naut. dunkel und kein Mond |            |    | 2025       |    |    |             |
|             |               |                            | $\Delta t$ |                                     | Ph.  | $\nearrow$ | $\searrow$ | Astr.                      | $\Delta t$ | Naut. | $\Delta t$ | Bürg. | $\Delta t$ | $\nearrow$ | $\Delta t$ | $\searrow$              | $\Delta t$ | Bürg. | $\Delta t$ | Naut. | $\Delta t$ | Astr.    | $\Delta t$                 | $\Delta t$ |    | $\Delta t$ |    |    |             |
| Mi, 1. Jan  |               | 18:38–06:31*               | 11h 52m    | AN <sub>+</sub> bis AN <sub>-</sub> |      | 10:14      | 18:01      | 06:31                      | 40m        | 07:11 | 41m        | 07:52 | 41m        | 08:34      | 8h 00m     | 16:35                   | 41m        | 17:17 | 41m        | 17:58 | 40m        | 18:38    | 15h 59m                    | 11h 52m    |    |            |    |    | Mi, 1. Jan  |
| Do, 2. Jan  |               | 19:26–06:31*               | 11h 04m    | M <sub>\</sub> bis AN <sub>-</sub>  |      | 10:39      | 19:26      | 06:31                      | 40m        | 07:11 | 41m        | 07:52 | 41m        | 08:34      | 8h 01m     | 16:36                   | 41m        | 17:18 | 41m        | 17:59 | 40m        | 18:39    | 15h 58m                    | 11h 51m    |    |            |    |    | Do, 2. Jan  |
| Fr, 3. Jan  |               | 20:52–06:31*               | 9h 38m     | M <sub>\</sub> bis AN <sub>-</sub>  |      | 10:57      | 20:52      | 06:31                      | 40m        | 07:11 | 41m        | 07:52 | 41m        | 08:34      | 8h 02m     | 16:37                   | 41m        | 17:19 | 41m        | 18:00 | 40m        | 18:40    | 15h 56m                    | 11h 50m    |    |            |    |    | Fr, 3. Jan  |
| Sa, 4. Jan  |               | 22:16–06:30*               | 8h 14m     | M <sub>\</sub> bis AN <sub>-</sub>  |      | 11:12      | 22:16      | 06:31                      | 40m        | 07:11 | 41m        | 07:52 | 41m        | 08:34      | 8h 04m     | 16:38                   | 41m        | 17:20 | 41m        | 18:01 | 40m        | 18:41    | 15h 55m                    | 11h 49m    |    |            |    |    | Sa, 4. Jan  |
| So, 5. Jan  |               | 23:40–06:30*               | 6h 50m     | M <sub>\</sub> bis AN <sub>-</sub>  |      | 11:25      | 23:40      | 06:30                      | 40m        | 07:11 | 41m        | 07:52 | 41m        | 08:33      | 8h 05m     | 16:39                   | 41m        | 17:21 | 41m        | 18:02 | 40m        | 18:42    | 15h 53m                    | 11h 48m    |    |            |    |    | So, 5. Jan  |
| Mo, 6. Jan  |               | 01:04*–06:30*              | 5h 26m     | M <sub>\</sub> bis AN <sub>-</sub>  |      | 11:37      | —:—        | 06:30                      | 40m        | 07:10 | 41m        | 07:52 | 41m        | 08:33      | 8h 07m     | 16:40                   | 41m        | 17:22 | 41m        | 18:03 | 40m        | 18:43    | 15h 52m                    | 11h 46m    |    |            |    |    | Mo, 6. Jan  |
| Di, 7. Jan  |               | 02:30*–06:30*              | 4h 00m     | M <sub>\</sub> bis AN <sub>-</sub>  | ☾    | 11:50      | 01:04      | 06:30                      | 40m        | 07:10 | 41m        | 07:51 | 41m        | 08:33      | 8h 09m     | 16:42                   | 41m        | 17:23 | 41m        | 18:04 | 40m        | 18:44    | 15h 50m                    | 11h 45m    |    |            |    |    | Di, 7. Jan  |
| Mi, 8. Jan  |               | 03:58*–06:30*              | 2h 31m     | M <sub>\</sub> bis AN <sub>-</sub>  |      | 12:06      | 02:30      | 06:30                      | 39m        | 07:10 | 41m        | 07:51 | 41m        | 08:32      | 8h 10m     | 16:43                   | 41m        | 17:24 | 41m        | 18:05 | 39m        | 18:45    | 15h 48m                    | 11h 44m    |    |            |    |    | Mi, 8. Jan  |
| Do, 9. Jan  |               | 05:27*–06:29*              | 1h 02m     | M <sub>\</sub> bis AN <sub>-</sub>  |      | 12:27      | 03:58      | 06:30                      | 39m        | 07:10 | 41m        | 07:51 | 41m        | 08:32      | 8h 12m     | 16:44                   | 41m        | 17:26 | 41m        | 18:07 | 39m        | 18:47    | 15h 46m                    | 11h 42m    |    |            |    |    | Do, 9. Jan  |
| Fr, 10. Jan |               | —:—:—:—                    | –          | Mond stört                          |      | 12:56      | 05:27      | 06:29                      | 39m        | 07:09 | 41m        | 07:50 | 40m        | 08:31      | 8h 14m     | 16:46                   | 41m        | 17:27 | 41m        | 18:08 | 39m        | 18:48    | 15h 44m                    | 11h 41m    |    |            |    |    | Fr, 10. Jan |
| Sa, 11. Jan |               | —:—:—:—                    | –          | Mond stört                          |      | 13:39      | 06:49      | 06:29                      | 39m        | 07:09 | 40m        | 07:50 | 40m        | 08:31      | 8h 16m     | 16:47                   | 40m        | 17:28 | 40m        | 18:09 | 39m        | 18:49    | 15h 42m                    | 11h 39m    |    |            |    |    | Sa, 11. Jan |
| So, 12. Jan |               | —:—:—:—                    | –          | Mond stört                          |      | 14:38      | 07:58      | 06:29                      | 39m        | 07:08 | 40m        | 07:49 | 40m        | 08:30      | 8h 18m     | 16:49                   | 40m        | 17:29 | 40m        | 18:10 | 39m        | 18:50    | 15h 40m                    | 11h 37m    |    |            |    |    | So, 12. Jan |
| Mo, 13. Jan |               | —:—:—:—                    | –          | Mond stört                          | ☾    | 15:52      | 08:48      | 06:28                      | 39m        | 07:08 | 40m        | 07:49 | 40m        | 08:29      | 8h 20m     | 16:50                   | 40m        | 17:31 | 40m        | 18:12 | 39m        | 18:51    | 15h 38m                    | 11h 36m    |    |            |    |    | Mo, 13. Jan |
| Di, 14. Jan |               | —:~:~:~:~                  | –          | Mond stört                          |      | 17:13      | 09:23      | 06:28                      | 39m        | 07:07 | 40m        | 07:48 | 40m        | 08:28      | 8h 23m     | 16:52                   | 40m        | 17:32 | 40m        | 18:13 | 39m        | 18:53    | 15h 35m                    | 11h 34m    |    |            |    |    | Di, 14. Jan |
| Mi, 15. Jan |               | —:~:~:~:~                  | –          | Mond stört                          |      | 18:35      | 09:46      | 06:27                      | 39m        | 07:07 | 40m        | 07:47 | 40m        | 08:28      | 8h 25m     | 16:53                   | 40m        | 17:34 | 40m        | 18:14 | 39m        | 18:54    | 15h 33m                    | 11h 32m    |    |            |    |    | Mi, 15. Jan |
| Do, 16. Jan |               | 18:55–19:53                | 57m        | AN <sub>+</sub> bis M <sub>\</sub>  |      | 19:53      | 10:03      | 06:26                      | 39m        | 07:06 | 40m        | 07:46 | 40m        | 08:27      | 8h 27m     | 16:55                   | 40m        | 17:35 | 40m        | 18:16 | 39m        | 18:55    | 15h 31m                    | 11h 30m    |    |            |    |    | Do, 16. Jan |
| Fr, 17. Jan |               | 18:56–21:07                | 2h 10m     | AN <sub>+</sub> bis M <sub>\</sub>  |      | 21:07      | 10:16      | 06:26                      | 39m        | 07:05 | 40m        | 07:46 | 40m        | 08:26      | 8h 30m     | 16:56                   | 40m        | 17:36 | 40m        | 18:17 | 39m        | 18:56    | 15h 28m                    | 11h 28m    |    |            |    |    | Fr, 17. Jan |
| Sa, 18. Jan |               | 18:58–22:19                | 3h 20m     | AN <sub>+</sub> bis M <sub>\</sub>  |      | 22:19      | 10:27      | 06:25                      | 39m        | 07:05 | 40m        | 07:45 | 39m        | 08:25      | 8h 33m     | 16:58                   | 39m        | 17:38 | 40m        | 18:18 | 39m        | 18:58    | 15h 25m                    | 11h 26m    |    |            |    |    | Sa, 18. Jan |
| So, 19. Jan |               | 18:59–23:29                | 4h 29m     | AN <sub>+</sub> bis M <sub>\</sub>  |      | 23:29      | 10:37      | 06:24                      | 39m        | 07:04 | 40m        | 07:44 | 39m        | 08:24      | 8h 35m     | 17:00                   | 39m        | 17:39 | 40m        | 18:20 | 39m        | 18:59    | 15h 23m                    | 11h 24m    |    |            |    |    | So, 19. Jan |
| Mo, 20. Jan |               | 19:00–00:38*               | 5h 38m     | AN <sub>+</sub> bis M <sub>\</sub>  |      | —:—        | 10:47      | 06:24                      | 39m        | 07:03 | 40m        | 07:43 | 39m        | 08:23      | 8h 38m     | 17:01                   | 39m        | 17:41 | 40m        | 18:21 | 39m        | 19:00    | 15h 20m                    | 11h 22m    |    |            |    |    | Mo, 20. Jan |
| Di, 21. Jan |               | 19:02–01:50*               | 6h 47m     | AN <sub>+</sub> bis M <sub>\</sub>  | ☾    | 00:38      | 10:58      | 06:23                      | 39m        | 07:02 | 40m        | 07:42 | 39m        | 08:22      | 8h 41m     | 17:03                   | 39m        | 17:42 | 40m        | 18:22 | 39m        | 19:02    | 15h 17m                    | 11h 20m    |    |            |    |    | Di, 21. Jan |
| Mi, 22. Jan |               | 19:03–03:03*               | 7h 59m     | AN <sub>+</sub> bis M <sub>\</sub>  |      | 01:50      | 11:11      | 06:22                      | 39m        | 07:01 | 39m        | 07:41 | 39m        | 08:21      | 8h 43m     | 17:05                   | 39m        | 17:44 | 39m        | 18:24 | 39m        | 19:03    | 15h 14m                    | 11h 18m    |    |            |    |    | Mi, 22. Jan |
| Do, 23. Jan |               | 19:05–04:18*               | 9h 13m     | AN <sub>+</sub> bis M <sub>\</sub>  |      | 03:03      | 11:28      | 06:21                      | 39m        | 07:00 | 39m        | 07:40 | 39m        | 08:19      | 8h 46m     | 17:06                   | 39m        | 17:46 | 39m        | 18:25 | 39m        | 19:05    | 15h 12m                    | 11h 15m    |    |            |    |    | Do, 23. Jan |
| Fr, 24. Jan |               | 19:06–05:31*               | 10h 25m    | AN <sub>+</sub> bis M <sub>\</sub>  |      | 04:18      | 11:51      | 06:20                      | 39m        | 06:59 | 39m        | 07:39 | 39m        | 08:18      | 8h 49m     | 17:08                   | 39m        | 17:47 | 39m        | 18:27 | 39m        | 19:06    | 15h 09m                    | 11h 13m    |    |            |    |    | Fr, 24. Jan |
| Sa, 25. Jan |               | 19:07–06:18*               | 11h 10m    | AN <sub>+</sub> bis AN <sub>-</sub> |      | 05:31      | 12:24      | 06:19                      | 39m        | 06:58 | 39m        | 07:38 | 39m        | 08:17      | 8h 52m     | 17:10                   | 39m        | 17:49 | 39m        | 18:28 | 39m        | 19:07    | 15h 06m                    | 11h 10m    |    |            |    |    | Sa, 25. Jan |
| So, 26. Jan |               | 19:09–06:17*               | 11h 08m    | AN <sub>+</sub> bis AN <sub>-</sub> |      | 06:38      | 13:12      | 06:18                      | 38m        | 06:57 | 39m        | 07:37 | 38m        | 08:16      | 8h 55m     | 17:11                   | 38m        | 17:50 | 39m        | 18:30 | 39m        | 19:09    | 15h 03m                    | 11h 08m    |    |            |    |    | So, 26. Jan |
| Mo, 27. Jan |               | 19:10–06:16*               | 11h 05m    | AN <sub>+</sub> bis AN <sub>-</sub> |      | 07:32      | 14:17      | 06:17                      | 38m        | 06:56 | 39m        | 07:36 | 38m        | 08:14      | 8h 58m     | 17:13                   | 38m        | 17:52 | 39m        | 18:31 | 38m        | 19:10    | 14h 59m                    | 11h 05m    |    |            |    |    | Mo, 27. Jan |
| Di, 28. Jan |               | 19:12–06:15*               | 11h 03m    | AN <sub>+</sub> bis AN <sub>-</sub> |      | 08:13      | 15:36      | 06:16                      | 38m        | 06:55 | 39m        | 07:34 | 38m        | 08:13      | 9h 01m     | 17:15                   | 38m        | 17:53 | 39m        | 18:33 | 38m        | 19:12    | 14h 56m                    | 11h 03m    |    |            |    |    | Di, 28. Jan |
| Mi, 29. Jan |               | 19:13–06:14*               | 11h 00m    | AN <sub>+</sub> bis AN <sub>-</sub> | ☾    | 08:41      | 17:02      | 06:15                      | 38m        | 06:54 | 39m        | 07:33 | 38m        | 08:12      | 9h 04m     | 17:17                   | 38m        | 17:55 | 39m        | 18:34 | 38m        | 19:13    | 14h 53m                    | 11h 00m    |    |            |    |    | Mi, 29. Jan |
| Do, 30. Jan |               | 19:15–06:13*               | 10h 57m    | AN <sub>+</sub> bis AN <sub>-</sub> |      | 09:02      | 18:31      | 06:14                      | 38m        | 06:53 | 39m        | 07:32 | 38m        | 08:10      | 9h 08m     | 17:18                   | 38m        | 17:57 | 39m        | 18:36 | 38m        | 19:15    | 14h 50m                    | 10h 57m    |    |            |    |    | Do, 30. Jan |
| Fr, 31. Jan |               | 19:58–06:12*               | 10h 13m    | M <sub>\</sub> bis AN <sub>-</sub>  |      | 09:18      | 19:58      | 06:13                      | 38m        | 06:51 | 39m        | 07:31 | 38m        | 08:09      | 9h 11m     | 17:20                   | 38m        | 17:58 | 39m        | 18:38 | 38m        | 19:16    | 14h 47m                    | 10h 55m    |    |            |    |    | Fr, 31. Jan |
| Sa, 1. Feb  |               | 21:25–06:10*               | 8h 45m     | M <sub>\</sub> bis AN <sub>-</sub>  |      | 09:32      | 21:25      | 06:12                      | 38m        | 06:50 | 38m        | 07:29 | 38m        | 08:07      | 9h 14m     | 17:22                   | 38m        | 18:00 | 39m        | 18:39 | 38m        | 19:18    | 14h 43m                    | 10h 52m    |    |            |    |    | Sa, 1. Feb  |
| So, 2. Feb  |               | 22:50–06:09*               | 7h 18m     | M <sub>\</sub> bis AN <sub>-</sub>  |      | 09:44      | 22:50      | 06:10                      | 38m        | 06:49 | 38m        | 07:28 | 37m        | 08:06      | 9h 18m     | 17:24                   | 37m        | 18:02 | 38m        | 18:41 | 38m        | 19:19    | 14h 40m                    | 10h 49m    |    |            |    |    | So, 2. Feb  |
| Mo, 3. Feb  |               | 00:17*–06:08*              | 5h 50m     | M <sub>\</sub> bis AN <sub>-</sub>  |      | 09:57      | —:—        | 06:09                      | 38m        | 06:48 | 38m        | 07:26 | 37m        | 08:04      | 9h 21m     | 17:26                   | 37m        | 18:03 | 38m        | 18:42 | 38m        | 19:21    | 14h 36m                    | 10h 46m    |    |            |    |    | Mo, 3. Feb  |
| Di, 4. Feb  |               | 01:45*–06:06*              | 4h 20m     | M <sub>\</sub> bis AN <sub>-</sub>  |      | 10:12      | 00:17      | 06:08                      | 38m        | 06:46 | 38m        | 07:25 | 37m        | 08:03      | 9h 24m     | 17:27                   | 37m        | 18:05 | 38m        | 18:44 | 38m        | 19:22    | 14h 33m                    | 10h 43m    |    |            |    |    | Di, 4. Feb  |
| Mi, 5. Feb  |               | 03:14*–06:05*              | 2h 51m     | M <sub>\</sub> bis AN <sub>-</sub>  | ☾    | 10:31      | 01:45      | 06:06                      | 38m        | 06:45 | 38m        | 07:23 | 37m        | 08:01      | 9h 28m     | 17:29                   | 37m        | 18:07 | 38m        | 18:45 | 38m        | 19:24    | 14h 30m                    | 10h 40m    |    |            |    |    | Mi, 5. Feb  |
| Do, 6. Feb  |               | 04:38*–06:03*              | 1h 25m     | M <sub>\</sub> bis AN <sub>-</sub>  |      | 10:57      | 03:14      | 06:05                      | 38m        | 06:43 | 38m        | 07:22 | 37m        | 07:59      | 9h 31m     | 17:31                   | 37m        | 18:08 | 38m        | 18:47 | 38m        | 19:26    | 14h 26m                    | 10h 37m    |    |            |    |    | Do, 6. Feb  |
| Fr, 7. Feb  |               | 05:50*–06:02*              | 11m        | M <sub>\</sub> bis AN <sub>-</sub>  |      | 11:34      | 04:38      | 06:03                      | 38m        | 06:42 | 38m        | 07:20 | 37m        | 07:58      | 9h 35m     | 17:33                   | 37m        | 18:10 | 38m        | 18:49 | 38m        | 19:27    | 14h 23m                    | 10h 34m    |    |            |    |    | Fr, 7. Feb  |
| Sa, 8. Feb  |               | —:~:~:~:~                  | –          | Mond stört                          |      | 12:26      | 05:50      | 06:02                      | 38m        | 06:40 | 38m        | 07:19 | 37m        | 07:56      | 9h 38m     | 17:35                   | 37m        | 18:12 | 38m        | 18:50 | 38m        | 19:29    | 14h 19m                    | 10h 31m    |    |            |    |    | Sa, 8. Feb  |
| So, 9. Feb  |               | —:~:~:~:~                  | –          | Mond stört                          |      | 13:34      | 06:45      | 06:00                      | 38m        | 06:39 | 38m        | 07:17 | 37m        | 07:54      | 9h 42m     | 17:36                   | 37m        | 18:13 | 38m        | 18:52 | 38m        | 19:30    | 14h 15m                    | 10h 28m    |    |            |    |    | So, 9. Feb  |
| Mo, 10. Feb |               | —:~:~:~:~                  | –          | Mond stört                          |      | 14:53      | 07:24      | 05:59                      | 38m        | 06:37 | 38m        | 07:15 | 36m        | 07:52      | 9h 45m     | 17:38                   | 36m        | 18:15 | 38m        | 18:53 | 38m        | 19:32    | 14h 12m                    | 10h 25m    |    |            |    |    | Mo, 10. Feb |
| Di, 11. Feb |               | —:~:~:~:~                  | –          | Mond stört                          |      | 16:14      | 07:50      | 05:57                      | 38m        | 06:36 | 38m        | 07:14 | 36m        | 07:51      | 9h 49m     | 17:40                   | 36m        | 18:17 | 38m        | 18:55 | 38m        | 19:34    | 14h 08m                    | 10h 22m    |    |            |    |    |             |

| 1           | 2             | 3                          | 4          | 5                                   | 6    | 7          | 8          | 9                          | 10         | 11    | 12         | 13    | 14         | 15         | 16         | 17                      | 18         | 19    | 20         | 21    | 22         | 23       | 24                         | 25         | 26 | 27         | 28 | 29          |
|-------------|---------------|----------------------------|------------|-------------------------------------|------|------------|------------|----------------------------|------------|-------|------------|-------|------------|------------|------------|-------------------------|------------|-------|------------|-------|------------|----------|----------------------------|------------|----|------------|----|-------------|
| 2025        | Zeit-<br>zone | Astr. dunkel und kein Mond |            |                                     | Mond |            |            | Beginn der Morgendämmerung |            |       |            |       | Sonne      |            |            | Ende der Abenddämmerung |            |       |            |       | Nacht      | Astr. N. | Naut. dunkel und kein Mond |            |    | 2025       |    |             |
|             |               |                            | $\Delta t$ |                                     | Ph.  | $\nearrow$ | $\searrow$ | Astr.                      | $\Delta t$ | Naut. | $\Delta t$ | Bürg. | $\Delta t$ | $\nearrow$ | $\Delta t$ | $\searrow$              | $\Delta t$ | Bürg. | $\Delta t$ | Naut. | $\Delta t$ | Astr.    | $\Delta t$                 | $\Delta t$ |    | $\Delta t$ |    |             |
| Do, 20. Feb |               | 19:48–03:13*               | 7h 24m     | AN <sub>+</sub> bis M <sub>7</sub>  | ☾    | 02:00      | 09:51      | 05:41                      | 38m        | 06:20 | 37m        | 06:57 | 35m        | 07:33      | 10h 22m    | 17:56                   | 35m        | 18:32 | 37m        | 19:10 | 38m        | 19:48    | 13h 35m                    | 9h 51m     |    |            |    | Do, 20. Feb |
| Fr, 21. Feb |               | 19:50–04:22*               | 8h 32m     | AN <sub>+</sub> bis M <sub>7</sub>  |      | 03:13      | 10:19      | 05:40                      | 38m        | 06:18 | 37m        | 06:56 | 35m        | 07:31      | 10h 26m    | 17:58                   | 35m        | 18:34 | 37m        | 19:12 | 38m        | 19:50    | 13h 31m                    | 9h 47m     |    |            |    | Fr, 21. Feb |
| Sa, 22. Feb |               | 19:52–05:22*               | 9h 29m     | AN <sub>+</sub> bis M <sub>7</sub>  |      | 04:22      | 10:59      | 05:38                      | 38m        | 06:16 | 37m        | 06:54 | 35m        | 07:29      | 10h 30m    | 18:00                   | 35m        | 18:36 | 37m        | 19:13 | 38m        | 19:52    | 13h 27m                    | 9h 43m     |    |            |    | Sa, 22. Feb |
| So, 23. Feb |               | 19:53–05:34*               | 9h 40m     | AN <sub>+</sub> bis AN <sub>-</sub> |      | 05:22      | 11:55      | 05:36                      | 38m        | 06:14 | 37m        | 06:52 | 35m        | 07:27      | 10h 34m    | 18:01                   | 35m        | 18:37 | 37m        | 19:15 | 38m        | 19:53    | 13h 23m                    | 9h 40m     |    |            |    | So, 23. Feb |
| Mo, 24. Feb |               | 19:55–05:32*               | 9h 36m     | AN <sub>+</sub> bis AN <sub>-</sub> |      | 06:08      | 13:07      | 05:34                      | 38m        | 06:12 | 37m        | 06:50 | 35m        | 07:25      | 10h 38m    | 18:03                   | 35m        | 18:39 | 37m        | 19:17 | 38m        | 19:55    | 13h 19m                    | 9h 36m     |    |            |    | Mo, 24. Feb |
| Di, 25. Feb |               | 19:57–05:30*               | 9h 32m     | AN <sub>+</sub> bis AN <sub>-</sub> |      | 06:41      | 14:30      | 05:32                      | 38m        | 06:10 | 37m        | 06:48 | 35m        | 07:23      | 10h 41m    | 18:05                   | 35m        | 18:41 | 37m        | 19:18 | 38m        | 19:57    | 13h 16m                    | 9h 32m     |    |            |    | Di, 25. Feb |
| Mi, 26. Feb |               | 19:59–05:28*               | 9h 29m     | AN <sub>+</sub> bis AN <sub>-</sub> |      | 07:05      | 15:59      | 05:30                      | 38m        | 06:08 | 37m        | 06:46 | 35m        | 07:21      | 10h 45m    | 18:07                   | 35m        | 18:42 | 37m        | 19:20 | 38m        | 19:59    | 13h 12m                    | 9h 29m     |    |            |    | Mi, 26. Feb |
| Do, 27. Feb |               | 20:00–05:25*               | 9h 25m     | AN <sub>+</sub> bis AN <sub>-</sub> |      | 07:23      | 17:28      | 05:28                      | 38m        | 06:06 | 37m        | 06:44 | 35m        | 07:19      | 10h 49m    | 18:09                   | 35m        | 18:44 | 37m        | 19:22 | 38m        | 20:00    | 13h 08m                    | 9h 25m     |    |            |    | Do, 27. Feb |
| Fr, 28. Feb |               | 20:02–05:23*               | 9h 21m     | AN <sub>+</sub> bis AN <sub>-</sub> | ☉    | 07:37      | 18:57      | 05:25                      | 38m        | 06:04 | 37m        | 06:42 | 35m        | 07:17      | 10h 53m    | 18:10                   | 35m        | 18:46 | 37m        | 19:23 | 38m        | 20:02    | 13h 04m                    | 9h 21m     |    |            |    | Fr, 28. Feb |
| Sa, 1. Mär  |               | 20:26–05:21*               | 8h 54m     | M <sub>\</sub> bis AN <sub>-</sub>  |      | 07:50      | 20:26      | 05:23                      | 38m        | 06:02 | 37m        | 06:39 | 35m        | 07:15      | 10h 57m    | 18:12                   | 35m        | 18:47 | 37m        | 19:25 | 38m        | 20:04    | 13h 00m                    | 9h 17m     |    |            |    | Sa, 1. Mär  |
| So, 2. Mär  |               | 21:56–05:19*               | 7h 23m     | M <sub>\</sub> bis AN <sub>-</sub>  |      | 08:04      | 21:56      | 05:21                      | 38m        | 06:00 | 37m        | 06:37 | 35m        | 07:13      | 11h 01m    | 18:14                   | 35m        | 18:49 | 37m        | 19:27 | 38m        | 20:05    | 12h 56m                    | 9h 13m     |    |            |    | So, 2. Mär  |
| Mo, 3. Mär  |               | 23:27–05:17*               | 5h 49m     | M <sub>\</sub> bis AN <sub>-</sub>  |      | 08:18      | 23:27      | 05:19                      | 38m        | 05:58 | 37m        | 06:35 | 35m        | 07:10      | 11h 05m    | 18:16                   | 35m        | 18:51 | 37m        | 19:28 | 38m        | 20:07    | 12h 52m                    | 9h 09m     |    |            |    | Mo, 3. Mär  |
| Di, 4. Mär  |               | 00:59*–05:15*              | 4h 16m     | M <sub>\</sub> bis AN <sub>-</sub>  |      | 08:36      | —:—        | 05:17                      | 38m        | 05:56 | 37m        | 06:33 | 35m        | 07:08      | 11h 08m    | 18:17                   | 35m        | 18:52 | 37m        | 19:30 | 38m        | 20:09    | 12h 48m                    | 9h 05m     |    |            |    | Di, 4. Mär  |
| Mi, 5. Mär  |               | 02:26*–05:12*              | 2h 46m     | M <sub>\</sub> bis AN <sub>-</sub>  |      | 08:59      | 00:58      | 05:15                      | 38m        | 05:53 | 37m        | 06:31 | 35m        | 07:06      | 11h 12m    | 18:19                   | 35m        | 18:54 | 37m        | 19:32 | 38m        | 20:11    | 12h 45m                    | 9h 01m     |    |            |    | Mi, 5. Mär  |
| Do, 6. Mär  |               | 03:44*–05:10*              | 1h 26m     | M <sub>\</sub> bis AN <sub>-</sub>  | ☽    | 09:33      | 02:26      | 05:12                      | 38m        | 05:51 | 37m        | 06:29 | 35m        | 07:04      | 11h 16m    | 18:21                   | 35m        | 18:56 | 37m        | 19:34 | 39m        | 20:13    | 12h 41m                    | 8h 57m     |    |            |    | Do, 6. Mär  |
| Fr, 7. Mär  |               | 04:44*–05:08*              | 23m        | M <sub>\</sub> bis AN <sub>-</sub>  |      | 10:21      | 03:44      | 05:10                      | 38m        | 05:49 | 37m        | 06:27 | 35m        | 07:02      | 11h 20m    | 18:22                   | 35m        | 18:58 | 37m        | 19:35 | 39m        | 20:14    | 12h 37m                    | 8h 53m     |    |            |    | Fr, 7. Mär  |
| Sa, 8. Mär  |               | —:—:—:—                    | –          | Mond stört                          |      | 11:24      | 04:44      | 05:08                      | 39m        | 05:47 | 37m        | 06:25 | 35m        | 07:00      | 11h 24m    | 18:24                   | 35m        | 18:59 | 37m        | 19:37 | 39m        | 20:16    | 12h 33m                    | 8h 49m     |    |            |    | Sa, 8. Mär  |
| So, 9. Mär  |               | —:—:—:—                    | –          | Mond stört                          |      | 12:39      | 05:27      | 05:06                      | 39m        | 05:45 | 37m        | 06:22 | 35m        | 06:57      | 11h 28m    | 18:26                   | 35m        | 19:01 | 37m        | 19:39 | 39m        | 20:18    | 12h 29m                    | 8h 45m     |    |            |    | So, 9. Mär  |
| Mo, 10. Mär |               | —:—:—:—                    | –          | Mond stört                          |      | 13:59      | 05:56      | 05:03                      | 39m        | 05:42 | 37m        | 06:20 | 35m        | 06:55      | 11h 32m    | 18:28                   | 35m        | 19:03 | 37m        | 19:40 | 39m        | 20:20    | 12h 25m                    | 8h 40m     |    |            |    | Mo, 10. Mär |
| Di, 11. Mär |               | —:~:~:~:~                  | –          | Mond stört                          |      | 15:18      | 06:16      | 05:01                      | 39m        | 05:40 | 37m        | 06:18 | 35m        | 06:53      | 11h 36m    | 18:29                   | 35m        | 19:04 | 37m        | 19:42 | 39m        | 20:22    | 12h 21m                    | 8h 36m     |    |            |    | Di, 11. Mär |
| Mi, 12. Mär |               | —:~:~:~:~                  | –          | Mond stört                          |      | 16:34      | 06:31      | 04:58                      | 39m        | 05:38 | 37m        | 06:16 | 35m        | 06:51      | 11h 40m    | 18:31                   | 35m        | 19:06 | 37m        | 19:44 | 39m        | 20:24    | 12h 17m                    | 8h 32m     |    |            |    | Mi, 12. Mär |
| Do, 13. Mär |               | —:~:~:~:~                  | –          | Mond stört                          |      | 17:47      | 06:43      | 04:56                      | 39m        | 05:36 | 37m        | 06:13 | 35m        | 06:49      | 11h 44m    | 18:33                   | 35m        | 19:08 | 37m        | 19:46 | 39m        | 20:25    | 12h 13m                    | 8h 28m     |    |            |    | Do, 13. Mär |
| Fr, 14. Mär |               | —:~:~:~:~                  | –          | Mond stört                          | ☽    | 18:58      | 06:53      | 04:54                      | 39m        | 05:33 | 37m        | 06:11 | 35m        | 06:46      | 11h 48m    | 18:34                   | 35m        | 19:09 | 38m        | 19:47 | 39m        | 20:27    | 12h 09m                    | 8h 23m     |    |            |    | Fr, 14. Mär |
| Sa, 15. Mär |               | —:~:~:~:~                  | –          | Mond stört                          |      | 20:09      | 07:03      | 04:51                      | 39m        | 05:31 | 37m        | 06:09 | 35m        | 06:44      | 11h 51m    | 18:36                   | 35m        | 19:11 | 38m        | 19:49 | 40m        | 20:29    | 12h 05m                    | 8h 19m     |    |            |    | Sa, 15. Mär |
| So, 16. Mär |               | 20:31–21:19                | 48m        | AN <sub>+</sub> bis M <sub>7</sub>  |      | 21:19      | 07:13      | 04:49                      | 40m        | 05:29 | 38m        | 06:07 | 35m        | 06:42      | 11h 55m    | 18:38                   | 35m        | 19:13 | 38m        | 19:51 | 40m        | 20:31    | 12h 01m                    | 8h 15m     |    |            |    | So, 16. Mär |
| Mo, 17. Mär |               | 20:33–22:31                | 1h 58m     | AN <sub>+</sub> bis M <sub>7</sub>  |      | 22:31      | 07:24      | 04:46                      | 40m        | 05:26 | 38m        | 06:04 | 35m        | 06:40      | 11h 59m    | 18:39                   | 35m        | 19:14 | 38m        | 19:53 | 40m        | 20:33    | 11h 57m                    | 8h 10m     |    |            |    | Mo, 17. Mär |
| Di, 18. Mär |               | 20:35–23:44                | 3h 09m     | AN <sub>+</sub> bis M <sub>7</sub>  |      | 23:44      | 07:37      | 04:44                      | 40m        | 05:24 | 38m        | 06:02 | 35m        | 06:37      | 12h 03m    | 18:41                   | 35m        | 19:16 | 38m        | 19:54 | 40m        | 20:35    | 11h 54m                    | 8h 06m     |    |            |    | Di, 18. Mär |
| Mi, 19. Mär |               | 20:37–00:58*               | 4h 20m     | AN <sub>+</sub> bis M <sub>7</sub>  |      | —:—        | 07:55      | 04:41                      | 40m        | 05:22 | 38m        | 06:00 | 35m        | 06:35      | 12h 07m    | 18:43                   | 35m        | 19:18 | 38m        | 19:56 | 40m        | 20:37    | 11h 50m                    | 8h 01m     |    |            |    | Mi, 19. Mär |
| Do, 20. Mär |               | 20:39–02:08*               | 5h 29m     | AN <sub>+</sub> bis M <sub>7</sub>  |      | 00:58      | 08:19      | 04:39                      | 40m        | 05:19 | 38m        | 05:58 | 35m        | 06:33      | 12h 11m    | 18:44                   | 35m        | 19:20 | 38m        | 19:58 | 40m        | 20:39    | 11h 46m                    | 7h 57m     |    |            |    | Do, 20. Mär |
| Fr, 21. Mär |               | 20:41–03:11*               | 6h 29m     | AN <sub>+</sub> bis M <sub>7</sub>  |      | 02:08      | 08:53      | 04:36                      | 40m        | 05:17 | 38m        | 05:55 | 35m        | 06:31      | 12h 15m    | 18:46                   | 35m        | 19:21 | 38m        | 20:00 | 41m        | 20:41    | 11h 42m                    | 7h 52m     |    |            |    | Fr, 21. Mär |
| Sa, 22. Mär |               | 20:43–04:01*               | 7h 18m     | AN <sub>+</sub> bis M <sub>7</sub>  | ☽    | 03:11      | 09:41      | 04:34                      | 41m        | 05:15 | 38m        | 05:53 | 35m        | 06:28      | 12h 19m    | 18:48                   | 35m        | 19:23 | 38m        | 20:02 | 41m        | 20:43    | 11h 38m                    | 7h 47m     |    |            |    | Sa, 22. Mär |
| So, 23. Mär |               | 20:45–04:28*               | 7h 43m     | AN <sub>+</sub> bis AN <sub>-</sub> |      | 04:01      | 10:45      | 04:31                      | 41m        | 05:12 | 38m        | 05:51 | 35m        | 06:26      | 12h 23m    | 18:49                   | 35m        | 19:25 | 38m        | 20:04 | 41m        | 20:45    | 11h 34m                    | 7h 43m     |    |            |    | So, 23. Mär |
| Mo, 24. Mär |               | 20:47–04:26*               | 7h 38m     | AN <sub>+</sub> bis AN <sub>-</sub> |      | 04:39      | 12:01      | 04:28                      | 41m        | 05:10 | 38m        | 05:48 | 35m        | 06:24      | 12h 27m    | 18:51                   | 35m        | 19:26 | 38m        | 20:05 | 41m        | 20:47    | 11h 30m                    | 7h 38m     |    |            |    | Mo, 24. Mär |
| Di, 25. Mär |               | 20:49–04:23*               | 7h 33m     | AN <sub>+</sub> bis AN <sub>-</sub> |      | 05:06      | 13:26      | 04:26                      | 41m        | 05:07 | 38m        | 05:46 | 35m        | 06:21      | 12h 31m    | 18:53                   | 35m        | 19:28 | 39m        | 20:07 | 41m        | 20:49    | 11h 26m                    | 7h 33m     |    |            |    | Di, 25. Mär |
| Mi, 26. Mär |               | 20:51–04:20*               | 7h 29m     | AN <sub>+</sub> bis AN <sub>-</sub> |      | 05:26      | 14:54      | 04:23                      | 41m        | 05:05 | 38m        | 05:44 | 35m        | 06:19      | 12h 35m    | 18:54                   | 35m        | 19:30 | 39m        | 20:09 | 42m        | 20:51    | 11h 22m                    | 7h 29m     |    |            |    | Mi, 26. Mär |
| Do, 27. Mär |               | 20:53–04:18*               | 7h 24m     | AN <sub>+</sub> bis AN <sub>-</sub> |      | 05:42      | 16:22      | 04:20                      | 42m        | 05:02 | 39m        | 05:42 | 35m        | 06:17      | 12h 39m    | 18:56                   | 35m        | 19:32 | 39m        | 20:11 | 42m        | 20:53    | 11h 18m                    | 7h 24m     |    |            |    | Do, 27. Mär |
| Fr, 28. Mär |               | 20:55–04:15*               | 7h 19m     | AN <sub>+</sub> bis AN <sub>-</sub> |      | 05:55      | 17:51      | 04:18                      | 42m        | 05:00 | 39m        | 05:39 | 35m        | 06:15      | 12h 42m    | 18:58                   | 35m        | 19:33 | 39m        | 20:13 | 42m        | 20:55    | 11h 14m                    | 7h 19m     |    |            |    | Fr, 28. Mär |
| Sa, 29. Mär |               | 20:58–04:12*               | 7h 14m     | AN <sub>+</sub> bis AN <sub>-</sub> | ☉    | 06:09      | 19:22      | 04:15                      | 42m        | 04:58 | 39m        | 05:37 | 35m        | 06:12      | 12h 46m    | 18:59                   | 35m        | 19:35 | 39m        | 20:15 | 42m        | 20:58    | 11h 10m                    | 7h 14m     |    |            |    | Sa, 29. Mär |
| So, 30. Mär | MESZ          | 22:00–05:09*               | 7h 09m     | AN <sub>+</sub> bis AN <sub>-</sub> |      | 07:22      | 21:55      | 05:12                      | 42m        | 05:55 | 39m        | 06:35 | 35m        | 07:10      | 12h 50m    | 20:01                   | 35m        | 20:37 | 39m        | 21:16 | 43m        | 22:00    | 11h 06m                    | 7h 09m     |    |            |    | So, 30. Mär |
| Mo, 31. Mär | MESZ          | 23:30–05:07*               | 5h 36m     | M <sub>\</sub> bis AN <sub>-</sub>  |      | 07:39      | 23:30      | 05:09                      | 43m        | 05:53 | 39m        | 06:32 | 35m        | 07:08      | 12h 54m    | 20:03                   | 35m        | 20:38 | 39m        | 21:18 | 43m        | 22:02    | 11h 03m                    | 7h 04m     |    |            |    | Mo, 31. Mär |
| Di, 1. Apr  | MESZ          | 01:04*–05:04*              | 3h 59m     | M <sub>\</sub> bis AN <sub>-</sub>  |      | 08:01      | —:—        | 05:07                      | 43m        | 05:50 | 39m        | 06:30 | 35m        | 07:06      | 12h 58m    | 20:04                   | 35m        | 20:40 | 40m        | 21:20 | 43m        | 22:04    | 10h 59m                    | 6h 59m     |    |            |    | Di, 1. Apr  |
| Mi, 2. Apr  | MESZ          | 02:29*–05:01*              | 2h 31m     | M <sub>\</sub> bis AN <sub>-</sub>  |      | 08:31      | 01:04      | 05:04                      | 43m        | 05:48 | 40m        | 06:28 | 35m        | 07:03      | 13h 02m    | 20:06                   | 36m        | 20:42 | 40m        | 21:22 | 44m        | 22:06    | 10h 55m                    | 6h 54m     |    |            |    | Mi, 2. Apr  |
| Do, 3. Apr  | MESZ          | 03:38*–04:58*              | 1h 20m     | M <sub>\</sub> bis AN <sub>-</sub>  |      | 09:14      | 0          |                            |            |       |            |       |            |            |            |                         |            |       |            |       |            |          |                            |            |    |            |    |             |

| 1           | 2     | 3                          | 4          | 5                                   | 6    | 7          | 8          | 9                          | 10         | 11    | 12         | 13    | 14         | 15         | 16         | 17                      | 18         | 19    | 20         | 21    | 22         | 23       | 24                         | 25         | 26             | 27         | 28                                 | 29          |
|-------------|-------|----------------------------|------------|-------------------------------------|------|------------|------------|----------------------------|------------|-------|------------|-------|------------|------------|------------|-------------------------|------------|-------|------------|-------|------------|----------|----------------------------|------------|----------------|------------|------------------------------------|-------------|
| 2025        | Zeit- | Astr. dunkel und kein Mond |            |                                     | Mond |            |            | Beginn der Morgendämmerung |            |       |            |       | Sonne      |            |            | Ende der Abenddämmerung |            |       |            |       | Nacht      | Astr. N. | Naut. dunkel und kein Mond |            |                | 2025       |                                    |             |
|             | zone  |                            | $\Delta t$ |                                     | Ph.  | $\nearrow$ | $\searrow$ | Astr.                      | $\Delta t$ | Naut. | $\Delta t$ | Bürg. | $\Delta t$ | $\nearrow$ | $\Delta t$ | $\searrow$              | $\Delta t$ | Bürg. | $\Delta t$ | Naut. | $\Delta t$ | Astr.    | $\Delta t$                 | $\Delta t$ |                | $\Delta t$ |                                    |             |
| Fr, 11. Apr | MESZ  | —:—:—:—                    | —          | Mond stört                          |      | 18:57      | 06:12      | 04:38                      | 47m        | 05:25 | 41m        | 06:07 | 36m        | 06:44      | 13h 37m    | 20:21                   | 37m        | 20:58 | 42m        | 21:40 | 47m        | 22:28    | 10h 20m                    | 6h 07m     |                |            |                                    | Fr, 11. Apr |
| Sa, 12. Apr | MESZ  | —:—:—:—                    | —          | Mond stört                          |      | 20:08      | 06:22      | 04:35                      | 47m        | 05:22 | 42m        | 06:04 | 37m        | 06:41      | 13h 40m    | 20:22                   | 37m        | 21:00 | 42m        | 21:42 | 48m        | 22:30    | 10h 16m                    | 6h 01m     |                |            |                                    | Sa, 12. Apr |
| So, 13. Apr | MESZ  | —:—:—:—                    | —          | Mond stört                          | ○    | 21:19      | 06:33      | 04:32                      | 48m        | 05:20 | 42m        | 06:02 | 37m        | 06:39      | 13h 44m    | 20:24                   | 37m        | 21:01 | 42m        | 21:44 | 48m        | 22:33    | 10h 13m                    | 5h 56m     |                |            |                                    | So, 13. Apr |
| Mo, 14. Apr | MESZ  | —:—:~:~:~                  | —          | Mond stört                          |      | 22:32      | 06:45      | 04:29                      | 48m        | 05:17 | 42m        | 06:00 | 37m        | 06:37      | 13h 48m    | 20:26                   | 37m        | 21:03 | 42m        | 21:46 | 49m        | 22:35    | 10h 09m                    | 5h 50m     |                |            |                                    | Mo, 14. Apr |
| Di, 15. Apr | MESZ  | 22:38 – 23:45              | 1h 07m     | AN <sub>+</sub> bis M <sub>7</sub>  |      | 23:45      | 07:01      | 04:26                      | 48m        | 05:15 | 42m        | 05:58 | 37m        | 06:35      | 13h 52m    | 20:27                   | 37m        | 21:05 | 43m        | 21:48 | 49m        | 22:38    | 10h 05m                    | 5h 44m     |                |            |                                    | Di, 15. Apr |
| Mi, 16. Apr | MESZ  | 22:40 – 00:57*             | 2h 16m     | AN <sub>+</sub> bis M <sub>7</sub>  |      | —:—        | 07:23      | 04:23                      | 49m        | 05:12 | 43m        | 05:55 | 37m        | 06:33      | 13h 56m    | 20:29                   | 37m        | 21:07 | 43m        | 21:50 | 50m        | 22:40    | 10h 01m                    | 5h 39m     |                |            |                                    | Mi, 16. Apr |
| Do, 17. Apr | MESZ  | 22:43 – 02:02*             | 3h 19m     | AN <sub>+</sub> bis M <sub>7</sub>  |      | 00:57      | 07:53      | 04:20                      | 50m        | 05:10 | 43m        | 05:53 | 37m        | 06:31      | 13h 59m    | 20:31                   | 37m        | 21:09 | 43m        | 21:52 | 50m        | 22:43    | 9h 58m                     | 5h 33m     |                |            |                                    | Do, 17. Apr |
| Fr, 18. Apr | MESZ  | 22:46 – 02:56*             | 4h 10m     | AN <sub>+</sub> bis M <sub>7</sub>  |      | 02:02      | 08:36      | 04:16                      | 50m        | 05:07 | 43m        | 05:51 | 37m        | 06:29      | 14h 03m    | 20:32                   | 38m        | 21:10 | 44m        | 21:54 | 51m        | 22:46    | 9h 54m                     | 5h 27m     |                |            |                                    | Fr, 18. Apr |
| Sa, 19. Apr | MESZ  | 22:48 – 03:37*             | 4h 48m     | AN <sub>+</sub> bis M <sub>7</sub>  |      | 02:56      | 09:33      | 04:13                      | 51m        | 05:05 | 43m        | 05:49 | 38m        | 06:27      | 14h 07m    | 20:34                   | 38m        | 21:12 | 44m        | 21:57 | 51m        | 22:48    | 9h 50m                     | 5h 21m     |                |            |                                    | Sa, 19. Apr |
| So, 20. Apr | MESZ  | 22:51 – 04:07*             | 5h 15m     | AN <sub>+</sub> bis AN <sub>-</sub> |      | 03:37      | 10:43      | 04:10                      | 51m        | 05:02 | 44m        | 05:46 | 38m        | 06:25      | 14h 11m    | 20:36                   | 38m        | 21:14 | 44m        | 21:59 | 52m        | 22:51    | 9h 46m                     | 5h 15m     |                |            |                                    | So, 20. Apr |
| Mo, 21. Apr | MESZ  | 22:54 – 04:04*             | 5h 09m     | AN <sub>+</sub> bis AN <sub>-</sub> | ◐    | 04:07      | 12:03      | 04:07                      | 52m        | 04:59 | 44m        | 05:44 | 38m        | 06:22      | 14h 14m    | 20:37                   | 38m        | 21:16 | 44m        | 22:01 | 53m        | 22:54    | 9h 43m                     | 5h 09m     |                |            |                                    | Mo, 21. Apr |
| Di, 22. Apr | MESZ  | 22:57 – 04:01*             | 5h 03m     | AN <sub>+</sub> bis AN <sub>-</sub> |      | 04:29      | 13:26      | 04:04                      | 53m        | 04:57 | 44m        | 05:42 | 38m        | 06:20      | 14h 18m    | 20:39                   | 38m        | 21:18 | 45m        | 22:03 | 53m        | 22:57    | 9h 39m                     | 5h 03m     |                |            |                                    | Di, 22. Apr |
| Mi, 23. Apr | MESZ  | 23:00 – 03:57*             | 4h 57m     | AN <sub>+</sub> bis AN <sub>-</sub> |      | 04:46      | 14:52      | 04:01                      | 53m        | 04:54 | 45m        | 05:40 | 38m        | 06:18      | 14h 22m    | 20:41                   | 38m        | 21:20 | 45m        | 22:05 | 54m        | 23:00    | 9h 35m                     | 4h 57m     |                |            |                                    | Mi, 23. Apr |
| Do, 24. Apr | MESZ  | 23:03 – 03:54*             | 4h 51m     | AN <sub>+</sub> bis AN <sub>-</sub> |      | 05:00      | 16:18      | 03:57                      | 54m        | 04:52 | 45m        | 05:37 | 38m        | 06:16      | 14h 25m    | 20:42                   | 39m        | 21:21 | 45m        | 22:07 | 55m        | 23:03    | 9h 32m                     | 4h 51m     |                |            |                                    | Do, 24. Apr |
| Fr, 25. Apr | MESZ  | 23:06 – 03:51*             | 4h 44m     | AN <sub>+</sub> bis AN <sub>-</sub> |      | 05:13      | 17:46      | 03:54                      | 55m        | 04:49 | 45m        | 05:35 | 39m        | 06:14      | 14h 29m    | 20:44                   | 39m        | 21:23 | 46m        | 22:10 | 56m        | 23:06    | 9h 28m                     | 4h 44m     |                |            |                                    | Fr, 25. Apr |
| Sa, 26. Apr | MESZ  | 23:09 – 03:47*             | 4h 38m     | AN <sub>+</sub> bis AN <sub>-</sub> |      | 05:26      | 19:17      | 03:51                      | 56m        | 04:47 | 46m        | 05:33 | 39m        | 06:12      | 14h 32m    | 20:45                   | 39m        | 21:25 | 46m        | 22:12 | 57m        | 23:09    | 9h 25m                     | 4h 38m     |                |            |                                    | Sa, 26. Apr |
| So, 27. Apr | MESZ  | 23:12 – 03:44*             | 4h 32m     | AN <sub>+</sub> bis AN <sub>-</sub> | ◑    | 05:42      | 20:51      | 03:47                      | 57m        | 04:44 | 46m        | 05:31 | 39m        | 06:11      | 14h 36m    | 20:47                   | 39m        | 21:27 | 47m        | 22:14 | 57m        | 23:12    | 9h 21m                     | 4h 32m     |                |            |                                    | So, 27. Apr |
| Mo, 28. Apr | MESZ  | 23:15 – 03:40*             | 4h 25m     | AN <sub>+</sub> bis AN <sub>-</sub> |      | 06:01      | 22:28      | 03:44                      | 57m        | 04:42 | 47m        | 05:29 | 39m        | 06:09      | 14h 40m    | 20:49                   | 39m        | 21:29 | 47m        | 22:16 | 58m        | 23:15    | 9h 17m                     | 4h 25m     |                |            |                                    | Mo, 28. Apr |
| Di, 29. Apr | MESZ  | 00:01* – 03:37*            | 3h 35m     | M <sub>\</sub> bis AN <sub>-</sub>  |      | 06:27      | —:—        | 03:40                      | 58m        | 04:39 | 47m        | 05:27 | 39m        | 06:07      | 14h 43m    | 20:50                   | 40m        | 21:31 | 47m        | 22:18 | 59m        | 23:18    | 9h 14m                     | 4h 18m     |                |            |                                    | Di, 29. Apr |
| Mi, 30. Apr | MESZ  | 01:21* – 03:34*            | 2h 12m     | M <sub>\</sub> bis AN <sub>-</sub>  |      | 07:05      | 00:01      | 03:37                      | 59m        | 04:37 | 47m        | 05:25 | 40m        | 06:05      | 14h 47m    | 20:52                   | 40m        | 21:32 | 48m        | 22:21 | 1h 00m     | 23:22    | 9h 10m                     | 4h 11m     |                |            |                                    | Mi, 30. Apr |
| Do, 1. Mai  | MESZ  | 02:20* – 03:30*            | 1h 09m     | M <sub>\</sub> bis AN <sub>-</sub>  |      | 08:00      | 01:21      | 03:34                      | 1h 00m     | 04:34 | 48m        | 05:23 | 40m        | 06:03      | 14h 50m    | 20:54                   | 40m        | 21:34 | 48m        | 22:23 | 1h 01m     | 23:25    | 9h 07m                     | 4h 05m     |                |            |                                    | Do, 1. Mai  |
| Fr, 2. Mai  | MESZ  | 03:00* – 03:26*            | 25m        | M <sub>\</sub> bis AN <sub>-</sub>  |      | 09:11      | 02:20      | 03:30                      | 1h 01m     | 04:32 | 48m        | 05:21 | 40m        | 06:01      | 14h 54m    | 20:55                   | 40m        | 21:36 | 49m        | 22:25 | 1h 02m     | 23:28    | 9h 04m                     | 3h 58m     |                |            |                                    | Fr, 2. Mai  |
| Sa, 3. Mai  | MESZ  | —:~:~:~:~                  | —          | Mond stört                          |      | 10:31      | 03:00      | 03:26                      | 1h 02m     | 04:29 | 49m        | 05:18 | 40m        | 05:59      | 14h 57m    | 20:57                   | 41m        | 21:38 | 49m        | 22:28 | 1h 04m     | 23:32    | 9h 00m                     | 3h 51m     |                |            |                                    | Sa, 3. Mai  |
| So, 4. Mai  | MESZ  | —:~:~:~:~                  | —          | Mond stört                          | ◒    | 11:53      | 03:27      | 03:23                      | 1h 04m     | 04:27 | 49m        | 05:16 | 41m        | 05:58      | 15h 00m    | 20:58                   | 41m        | 21:40 | 50m        | 22:30 | 1h 05m     | 23:35    | 8h 57m                     | 3h 43m     |                |            |                                    | So, 4. Mai  |
| Mo, 5. Mai  | MESZ  | —:~:~:~:~                  | —          | Mond stört                          |      | 13:12      | 03:46      | 03:19                      | 1h 05m     | 04:24 | 50m        | 05:14 | 41m        | 05:56      | 15h 04m    | 21:00                   | 41m        | 21:42 | 50m        | 22:32 | 1h 06m     | 23:39    | 8h 53m                     | 3h 36m     |                |            |                                    | Mo, 5. Mai  |
| Di, 6. Mai  | MESZ  | —:~:~:~:~                  | —          | Mond stört                          |      | 14:26      | 04:00      | 03:15                      | 1h 06m     | 04:22 | 50m        | 05:12 | 41m        | 05:54      | 15h 07m    | 21:02                   | 41m        | 21:43 | 50m        | 22:34 | 1h 08m     | 23:43    | 8h 50m                     | 3h 28m     |                |            |                                    | Di, 6. Mai  |
| Mi, 7. Mai  | MESZ  | —:~:~:~:~                  | —          | Mond stört                          |      | 15:38      | 04:11      | 03:11                      | 1h 08m     | 04:20 | 50m        | 05:11 | 41m        | 05:52      | 15h 10m    | 21:03                   | 42m        | 21:45 | 51m        | 22:37 | 1h 09m     | 23:46    | 8h 47m                     | 3h 21m     |                |            |                                    | Mi, 7. Mai  |
| Do, 8. Mai  | MESZ  | —:~:~:~:~                  | —          | Mond stört                          |      | 16:48      | 04:21      | 03:08                      | 1h 09m     | 04:17 | 51m        | 05:09 | 42m        | 05:51      | 15h 14m    | 21:05                   | 42m        | 21:47 | 51m        | 22:39 | 1h 11m     | 23:50    | 8h 44m                     | 3h 13m     |                |            |                                    | Do, 8. Mai  |
| Fr, 9. Mai  | MESZ  | —:~:~:~:~                  | —          | Mond stört                          |      | 17:57      | 04:31      | 03:04                      | 1h 11m     | 04:15 | 51m        | 05:07 | 42m        | 05:49      | 15h 17m    | 21:06                   | 42m        | 21:49 | 52m        | 22:41 | 1h 12m     | 23:54    | 8h 41m                     | 3h 05m     |                |            |                                    | Fr, 9. Mai  |
| Sa, 10. Mai | MESZ  | —:~:~:~:~                  | —          | Mond stört                          |      | 19:08      | 04:41      | 03:00                      | 1h 12m     | 04:12 | 52m        | 05:05 | 42m        | 05:47      | 15h 20m    | 21:08                   | 42m        | 21:51 | 52m        | 22:44 | 1h 14m     | 23:58    | 8h 37m                     | 2h 57m     |                |            |                                    | Sa, 10. Mai |
| So, 11. Mai | MESZ  | —:~:~:~:~                  | —          | Mond stört                          |      | 20:20      | 04:53      | 02:55                      | 1h 14m     | 04:10 | 52m        | 05:03 | 42m        | 05:46      | 15h 23m    | 21:09                   | 43m        | 21:52 | 53m        | 22:46 | 1h 16m     | 00:03*   | 8h 34m                     | 2h 48m     |                |            |                                    | So, 11. Mai |
| Mo, 12. Mai | MESZ  | —:~:~:~:~                  | —          | Mond stört                          | ○    | 21:34      | 05:08      | 02:51                      | 1h 16m     | 04:08 | 53m        | 05:01 | 43m        | 05:44      | 15h 26m    | 21:11                   | 43m        | 21:54 | 54m        | 22:48 | 1h 18m     | 00:07*   | 8h 31m                     | 2h 39m     |                |            |                                    | Mo, 12. Mai |
| Di, 13. Mai | MESZ  | —:~:~:~:~                  | —          | Mond stört                          |      | 22:46      | 05:28      | 02:47                      | 1h 18m     | 04:05 | 54m        | 04:59 | 43m        | 05:43      | 15h 29m    | 21:12                   | 43m        | 21:56 | 54m        | 22:51 | 1h 20m     | 00:11*   | 8h 28m                     | 2h 30m     |                |            |                                    | Di, 13. Mai |
| Mi, 14. Mai | MESZ  | —:~:~:~:~                  | —          | Mond stört                          |      | 23:54      | 05:56      | 02:42                      | 1h 20m     | 04:03 | 54m        | 04:58 | 43m        | 05:41      | 15h 32m    | 21:14                   | 43m        | 21:58 | 55m        | 22:53 | 1h 23m     | 00:16*   | 8h 25m                     | 2h 21m     |                |            |                                    | Mi, 14. Mai |
| Do, 15. Mai | MESZ  | 00:21* – 00:52*            | 30m        | AN <sub>+</sub> bis M <sub>7</sub>  |      | —:~        | 06:34      | 02:37                      | 1h 23m     | 04:01 | 55m        | 04:56 | 43m        | 05:40      | 15h 35m    | 21:15                   | 44m        | 21:59 | 55m        | 22:55 | 1h 26m     | 00:21*   | 8h 22m                     | 2h 11m     |                |            |                                    | Do, 15. Mai |
| Fr, 16. Mai | MESZ  | 00:27* – 01:37*            | 1h 09m     | AN <sub>+</sub> bis M <sub>7</sub>  |      | 00:52      | 07:27      | 02:32                      | 1h 26m     | 03:58 | 55m        | 04:54 | 44m        | 05:38      | 15h 38m    | 21:17                   | 44m        | 22:01 | 56m        | 22:57 | 1h 29m     | 00:27*   | 8h 19m                     | 2h 00m     |                |            |                                    | Fr, 16. Mai |
| Sa, 17. Mai | MESZ  | 00:32* – 02:09*            | 1h 36m     | AN <sub>+</sub> bis M <sub>7</sub>  |      | 01:37      | 08:34      | 02:27                      | 1h 29m     | 03:56 | 56m        | 04:52 | 44m        | 05:37      | 15h 41m    | 21:18                   | 44m        | 22:03 | 56m        | 23:00 | 1h 32m     | 00:32*   | 8h 17m                     | 1h 49m     |                |            |                                    | Sa, 17. Mai |
| So, 18. Mai | MESZ  | 00:39* – 02:15*            | 1h 36m     | AN <sub>+</sub> bis AN <sub>-</sub> |      | 02:09      | 09:49      | 02:21                      | 1h 32m     | 03:54 | 56m        | 04:51 | 44m        | 05:35      | 15h 44m    | 21:20                   | 44m        | 22:05 | 57m        | 23:02 | 1h 36m     | 00:39*   | 8h 14m                     | 1h 36m     |                |            |                                    | So, 18. Mai |
| Mo, 19. Mai | MESZ  | 00:46* – 02:08*            | 1h 22m     | AN <sub>+</sub> bis AN <sub>-</sub> |      | 02:33      | 11:10      | 02:15                      | 1h 36m     | 03:52 | 57m        | 04:49 | 44m        | 05:34      | 15h 47m    | 21:21                   | 45m        | 22:06 | 58m        | 23:04 | 1h 41m     | 00:46*   | 8h 11m                     | 1h 22m     |                |            |                                    | Mo, 19. Mai |
| Di, 20. Mai | MESZ  | 00:54* – 02:00*            | 1h 06m     | AN <sub>+</sub> bis AN <sub>-</sub> | ◑    | 02:51      | 12:32      | 02:08                      | 1h 41m     | 03:50 | 58m        | 04:48 | 45m        | 05:33      | 15h 49m    | 21:23                   | 45m        | 22:08 | 58m        | 23:07 | 1h 47m     | 00:54*   | 8h 08m                     | 1h 06m     |                |            |                                    | Di, 20. Mai |
| Mi, 21. Mai | MESZ  | 01:05* – 01:50*            | 45m        | AN <sub>+</sub> bis AN <sub>-</sub> |      | 03:06      | 13:55      | 02:00                      | 1h 47m     | 03:48 | 58m        | 04:46 | 45m        | 05:32      | 15h 52m    | 21:24                   | 45m        | 22:10 | 59m        | 23:09 | 1h 55m     | 01:05*   | 8h 06m                     | 45m        |                |            |                                    | Mi, 21. Mai |
| Do, 22. Mai | MESZ  |                            |            | Astr. MD                            |      | 03:19      | 15:19      | 01:50                      | 1h 55m     | 03:45 | 59m        | 04:45 | 45m        | 05:30      | 15h 55m    | 21:25                   | 45m        | 22:11 | 59m        | 23:11 |            | —:~      | 8h 03m                     |            | 23:11 – 03:31* | 4h 20m     | ND <sub>+</sub> bis M <sub>7</sub> | Do, 22. Mai |

| 1           | 2             | 3                          | 4          | 5        | 6    | 7          | 8          | 9                          | 10         | 11    | 12         | 13    | 14         | 15         | 16         | 17         | 18                      | 19    | 20         | 21    | 22         | 23    | 24         | 25                         | 26              | 27         | 28  | 29          |
|-------------|---------------|----------------------------|------------|----------|------|------------|------------|----------------------------|------------|-------|------------|-------|------------|------------|------------|------------|-------------------------|-------|------------|-------|------------|-------|------------|----------------------------|-----------------|------------|---|-------------|
| 2025        | Zeit-<br>zone | Astr. dunkel und kein Mond |            |          | Mond |            |            | Beginn der Morgendämmerung |            |       |            |       | Sonne      |            |            |            | Ende der Abenddämmerung |       |            |       |            | Nacht | Astr. N.   | Naut. dunkel und kein Mond |                 |            | 2025                                      |             |
|             |               |                            | $\Delta t$ |          | Ph.  | $\uparrow$ | $\searrow$ | Astr.                      | $\Delta t$ | Naut. | $\Delta t$ | Bürg. | $\Delta t$ | $\uparrow$ | $\Delta t$ | $\searrow$ | $\Delta t$              | Bürg. | $\Delta t$ | Naut. | $\Delta t$ | Astr. | $\Delta t$ | $\Delta t$                 |                 | $\Delta t$ |   |             |
| Sa, 31. Mai | MESZ          |                            |            | Astr. MD |      | 09:32      | 01:27      | —:—                        |            | 03:29 | 1h 04m     | 04:33 | 47m        | 05:21      | 16h 15m    | 21:36      | 47m                     | 22:24 | 1h 05m     | 23:30 |            | —:—   | 7h 44m     |                            | 01:49* – 03:27* | 1h 37m     | M <sub>\searrow</sub> bis ND <sub>-</sub> | Sa, 31. Mai |
| So, 1. Jun  | MESZ          |                            |            | Astr. MD |      | 10:54      | 01:49      | —:—                        |            | 03:27 | 1h 05m     | 04:32 | 47m        | 05:20      | 16h 17m    | 21:37      | 48m                     | 22:26 | 1h 06m     | 23:32 |            | —:—   | 7h 42m     |                            | 02:05* – 03:25* | 1h 19m     | M <sub>\searrow</sub> bis ND <sub>-</sub> | So, 1. Jun  |
| Mo, 2. Jun  | MESZ          |                            |            | Astr. MD |      | 12:12      | 02:05      | —:—                        |            | 03:25 | 1h 05m     | 04:31 | 48m        | 05:20      | 16h 18m    | 21:38      | 48m                     | 22:27 | 1h 06m     | 23:33 |            | —:—   | 7h 40m     |                            | 02:18* – 03:24* | 1h 05m     | M <sub>\searrow</sub> bis ND <sub>-</sub> | Mo, 2. Jun  |
| Di, 3. Jun  | MESZ          |                            |            | Astr. MD | ☾    | 13:26      | 02:18      | —:—                        |            | 03:24 | 1h 06m     | 04:31 | 48m        | 05:19      | 16h 20m    | 21:39      | 48m                     | 22:28 | 1h 07m     | 23:35 |            | —:—   | 7h 38m     |                            | 02:29* – 03:23* | 53m        | M <sub>\searrow</sub> bis ND <sub>-</sub> | Di, 3. Jun  |
| Mi, 4. Jun  | MESZ          |                            |            | Astr. MD |      | 14:37      | 02:29      | —:—                        |            | 03:23 | 1h 07m     | 04:30 | 48m        | 05:18      | 16h 22m    | 21:40      | 48m                     | 22:29 | 1h 07m     | 23:37 |            | —:—   | 7h 37m     |                            | 02:39* – 03:21* | 42m        | M <sub>\searrow</sub> bis ND <sub>-</sub> | Mi, 4. Jun  |
| Do, 5. Jun  | MESZ          |                            |            | Astr. MD |      | 15:47      | 02:39      | —:—                        |            | 03:21 | 1h 07m     | 04:29 | 48m        | 05:18      | 16h 23m    | 21:41      | 48m                     | 22:30 | 1h 08m     | 23:39 |            | —:—   | 7h 35m     |                            | 02:49* – 03:20* | 30m        | M <sub>\searrow</sub> bis ND <sub>-</sub> | Do, 5. Jun  |
| Fr, 6. Jun  | MESZ          |                            |            | Astr. MD |      | 16:57      | 02:49      | —:—                        |            | 03:20 | 1h 08m     | 04:28 | 48m        | 05:17      | 16h 25m    | 21:42      | 49m                     | 22:31 | 1h 08m     | 23:40 |            | —:—   | 7h 34m     |                            | 03:00* – 03:19* | 18m        | M <sub>\searrow</sub> bis ND <sub>-</sub> | Fr, 6. Jun  |
| Sa, 7. Jun  | MESZ          |                            |            | Astr. MD |      | 18:08      | 03:00      | —:—                        |            | 03:19 | 1h 08m     | 04:27 | 49m        | 05:17      | 16h 26m    | 21:43      | 49m                     | 22:32 | 1h 09m     | 23:42 |            | —:—   | 7h 33m     |                            | 03:15* – 03:18* | 3m         | M <sub>\searrow</sub> bis ND <sub>-</sub> | Sa, 7. Jun  |
| So, 8. Jun  | MESZ          |                            |            | Astr. MD |      | 19:21      | 03:15      | —:—                        |            | 03:18 | 1h 09m     | 04:27 | 49m        | 05:16      | 16h 27m    | 21:44      | 49m                     | 22:33 | 1h 09m     | 23:43 |            | —:—   | 7h 31m     |                            | —:—:—:—:—       | —          | Mond stört                                | So, 8. Jun  |
| Mo, 9. Jun  | MESZ          |                            |            | Astr. MD |      | 20:35      | 03:33      | —:—                        |            | 03:17 | 1h 09m     | 04:26 | 49m        | 05:16      | 16h 28m    | 21:45      | 49m                     | 22:34 | 1h 10m     | 23:44 |            | —:—   | 7h 30m     |                            | —:—:—:—:—       | —          | Mond stört                                | Mo, 9. Jun  |
| Di, 10. Jun | MESZ          |                            |            | Astr. MD |      | 21:45      | 03:58      | —:—                        |            | 03:16 | 1h 10m     | 04:26 | 49m        | 05:15      | 16h 30m    | 21:45      | 49m                     | 22:35 | 1h 10m     | 23:46 |            | —:—   | 7h 29m     |                            | —:—:—:—:—       | —          | Mond stört                                | Di, 10. Jun |
| Mi, 11. Jun | MESZ          |                            |            | Astr. MD | ☽    | 22:46      | 04:33      | —:—                        |            | 03:15 | 1h 10m     | 04:25 | 49m        | 05:15      | 16h 31m    | 21:46      | 49m                     | 22:36 | 1h 10m     | 23:47 |            | —:—   | 7h 28m     |                            | —:—:—:—:—       | —          | Mond stört                                | Mi, 11. Jun |
| Do, 12. Jun | MESZ          |                            |            | Astr. MD |      | 23:35      | 05:22      | —:—                        |            | 03:14 | 1h 10m     | 04:25 | 49m        | 05:15      | 16h 31m    | 21:47      | 49m                     | 22:37 | 1h 11m     | 23:48 |            | —:—   | 7h 27m     |                            | —:—:—:—:—       | —          | Mond stört                                | Do, 12. Jun |
| Fr, 13. Jun | MESZ          |                            |            | Astr. MD |      | —:—        | 06:25      | —:—                        |            | 03:13 | 1h 11m     | 04:25 | 49m        | 05:15      | 16h 32m    | 21:47      | 50m                     | 22:37 | 1h 11m     | 23:49 |            | —:—   | 7h 27m     |                            | 23:49 – 00:12*  | 22m        | ND <sub>+</sub> bis M <sub>7</sub>        | Fr, 13. Jun |
| Sa, 14. Jun | MESZ          |                            |            | Astr. MD |      | 00:12      | 07:39      | —:—                        |            | 03:13 | 1h 11m     | 04:24 | 50m        | 05:14      | 16h 33m    | 21:48      | 50m                     | 22:38 | 1h 11m     | 23:50 |            | —:—   | 7h 26m     |                            | 23:50 – 00:38*  | 47m        | ND <sub>+</sub> bis M <sub>7</sub>        | Sa, 14. Jun |
| So, 15. Jun | MESZ          |                            |            | Astr. MD |      | 00:38      | 08:59      | —:—                        |            | 03:12 | 1h 11m     | 04:24 | 50m        | 05:14      | 16h 34m    | 21:48      | 50m                     | 22:39 | 1h 12m     | 23:51 |            | —:—   | 7h 25m     |                            | 23:51 – 00:57*  | 1h 06m     | ND <sub>+</sub> bis M <sub>7</sub>        | So, 15. Jun |
| Mo, 16. Jun | MESZ          |                            |            | Astr. MD |      | 00:57      | 10:21      | —:—                        |            | 03:12 | 1h 12m     | 04:24 | 50m        | 05:14      | 16h 34m    | 21:49      | 50m                     | 22:39 | 1h 12m     | 23:52 |            | —:—   | 7h 25m     |                            | 23:52 – 01:12*  | 1h 20m     | ND <sub>+</sub> bis M <sub>7</sub>        | Mo, 16. Jun |
| Di, 17. Jun | MESZ          |                            |            | Astr. MD |      | 01:12      | 11:42      | —:—                        |            | 03:12 | 1h 12m     | 04:24 | 50m        | 05:14      | 16h 34m    | 21:49      | 50m                     | 22:40 | 1h 12m     | 23:52 |            | —:—   | 7h 25m     |                            | 23:52 – 01:25*  | 1h 33m     | ND <sub>+</sub> bis M <sub>7</sub>        | Di, 17. Jun |
| Mi, 18. Jun | MESZ          |                            |            | Astr. MD | ☾    | 01:25      | 13:03      | —:—                        |            | 03:11 | 1h 12m     | 04:24 | 50m        | 05:14      | 16h 35m    | 21:50      | 50m                     | 22:40 | 1h 12m     | 23:53 |            | —:—   | 7h 24m     |                            | 23:53 – 01:38*  | 1h 44m     | ND <sub>+</sub> bis M <sub>7</sub>        | Mi, 18. Jun |
| Do, 19. Jun | MESZ          |                            |            | Astr. MD |      | 01:38      | 14:26      | —:—                        |            | 03:11 | 1h 12m     | 04:24 | 50m        | 05:14      | 16h 35m    | 21:50      | 50m                     | 22:40 | 1h 12m     | 23:53 |            | —:—   | 7h 24m     |                            | 23:53 – 01:50*  | 1h 57m     | ND <sub>+</sub> bis M <sub>7</sub>        | Do, 19. Jun |
| Fr, 20. Jun | MESZ          |                            |            | Astr. MD |      | 01:50      | 15:52      | —:—                        |            | 03:11 | 1h 12m     | 04:24 | 50m        | 05:15      | 16h 35m    | 21:50      | 50m                     | 22:41 | 1h 12m     | 23:53 |            | —:—   | 7h 24m     |                            | 23:53 – 02:05*  | 2h 11m     | ND <sub>+</sub> bis M <sub>7</sub>        | Fr, 20. Jun |
| Sa, 21. Jun | MESZ          |                            |            | Astr. MD |      | 02:05      | 17:21      | —:—                        |            | 03:12 | 1h 12m     | 04:24 | 50m        | 05:15      | 16h 35m    | 21:50      | 50m                     | 22:41 | 1h 12m     | 23:54 |            | —:—   | 7h 24m     |                            | 23:54 – 02:24*  | 2h 30m     | ND <sub>+</sub> bis M <sub>7</sub>        | Sa, 21. Jun |
| So, 22. Jun | MESZ          |                            |            | Astr. MD |      | 02:24      | 18:54      | —:—                        |            | 03:12 | 1h 12m     | 04:25 | 50m        | 05:15      | 16h 35m    | 21:51      | 50m                     | 22:41 | 1h 12m     | 23:54 |            | —:—   | 7h 24m     |                            | 23:54 – 02:50*  | 2h 56m     | ND <sub>+</sub> bis M <sub>7</sub>        | So, 22. Jun |
| Mo, 23. Jun | MESZ          |                            |            | Astr. MD |      | 02:50      | 20:24      | —:—                        |            | 03:12 | 1h 12m     | 04:25 | 50m        | 05:15      | 16h 35m    | 21:51      | 50m                     | 22:41 | 1h 12m     | 23:54 |            | —:—   | 7h 24m     |                            | 23:54 – 03:13*  | 3h 19m     | ND <sub>+</sub> bis ND <sub>-</sub>       | Mo, 23. Jun |
| Di, 24. Jun | MESZ          |                            |            | Astr. MD |      | 03:29      | 21:43      | —:—                        |            | 03:13 | 1h 12m     | 04:25 | 50m        | 05:16      | 16h 35m    | 21:51      | 50m                     | 22:41 | 1h 12m     | 23:53 |            | —:—   | 7h 25m     |                            | 23:53 – 03:13*  | 3h 19m     | ND <sub>+</sub> bis ND <sub>-</sub>       | Di, 24. Jun |
| Mi, 25. Jun | MESZ          |                            |            | Astr. MD | ☽    | 04:25      | 22:43      | —:—                        |            | 03:13 | 1h 12m     | 04:26 | 50m        | 05:16      | 16h 34m    | 21:51      | 50m                     | 22:41 | 1h 12m     | 23:53 |            | —:—   | 7h 25m     |                            | 23:53 – 03:14*  | 3h 20m     | ND <sub>+</sub> bis ND <sub>-</sub>       | Mi, 25. Jun |
| Do, 26. Jun | MESZ          |                            |            | Astr. MD |      | 05:39      | 23:23      | —:—                        |            | 03:14 | 1h 12m     | 04:26 | 50m        | 05:16      | 16h 34m    | 21:51      | 50m                     | 22:41 | 1h 12m     | 23:53 |            | —:—   | 7h 26m     |                            | 23:53 – 03:15*  | 3h 21m     | ND <sub>+</sub> bis ND <sub>-</sub>       | Do, 26. Jun |
| Fr, 27. Jun | MESZ          |                            |            | Astr. MD |      | 07:04      | 23:50      | —:—                        |            | 03:15 | 1h 12m     | 04:27 | 50m        | 05:17      | 16h 33m    | 21:51      | 50m                     | 22:41 | 1h 11m     | 23:52 |            | —:—   | 7h 26m     |                            | 23:52 – 03:16*  | 3h 23m     | ND <sub>+</sub> bis ND <sub>-</sub>       | Fr, 27. Jun |
| Sa, 28. Jun | MESZ          |                            |            | Astr. MD |      | 08:29      | —:—        | —:—                        |            | 03:16 | 1h 11m     | 04:27 | 50m        | 05:17      | 16h 32m    | 21:50      | 50m                     | 22:40 | 1h 11m     | 23:52 |            | —:—   | 7h 27m     |                            | 00:09* – 03:17* | 3h 07m     | M <sub>\searrow</sub> bis ND <sub>-</sub> | Sa, 28. Jun |
| So, 29. Jun | MESZ          |                            |            | Astr. MD |      | 09:51      | 00:09      | —:—                        |            | 03:17 | 1h 11m     | 04:28 | 50m        | 05:18      | 16h 32m    | 21:50      | 49m                     | 22:40 | 1h 11m     | 23:51 |            | —:—   | 7h 28m     |                            | 00:23* – 03:18* | 2h 54m     | M <sub>\searrow</sub> bis ND <sub>-</sub> | So, 29. Jun |
| Mo, 30. Jun | MESZ          |                            |            | Astr. MD |      | 11:08      | 00:23      | —:—                        |            | 03:18 | 1h 11m     | 04:29 | 49m        | 05:19      | 16h 31m    | 21:50      | 49m                     | 22:40 | 1h 10m     | 23:50 |            | —:—   | 7h 29m     |                            | 00:35* – 03:19* | 2h 43m     | M <sub>\searrow</sub> bis ND <sub>-</sub> | Mo, 30. Jun |
| Di, 1. Jul  | MESZ          |                            |            | Astr. MD |      | 12:22      | 00:35      | —:—                        |            | 03:19 | 1h 10m     | 04:30 | 49m        | 05:19      | 16h 30m    | 21:50      | 49m                     | 22:39 | 1h 10m     | 23:50 |            | —:—   | 7h 30m     |                            | 00:45* – 03:20* | 2h 34m     | M <sub>\searrow</sub> bis ND <sub>-</sub> | Di, 1. Jul  |
| Mi, 2. Jul  | MESZ          |                            |            | Astr. MD | ☾    | 13:33      | 00:45      | —:—                        |            | 03:20 | 1h 10m     | 04:30 | 49m        | 05:20      | 16h 29m    | 21:49      | 49m                     | 22:39 | 1h 09m     | 23:49 |            | —:—   | 7h 31m     |                            | 00:56* – 03:21* | 2h 25m     | M <sub>\searrow</sub> bis ND <sub>-</sub> | Mi, 2. Jul  |
| Do, 3. Jul  | MESZ          |                            |            | Astr. MD |      | 14:43      | 00:56      | —:—                        |            | 03:21 | 1h 09m     | 04:31 | 49m        | 05:21      | 16h 28m    | 21:49      | 49m                     | 22:38 | 1h 09m     | 23:48 |            | —:—   | 7h 32m     |                            | 01:07* – 03:23* | 2h 16m     | M <sub>\searrow</sub> bis ND <sub>-</sub> | Do, 3. Jul  |
| Fr, 4. Jul  | MESZ          |                            |            | Astr. MD |      | 15:55      | 01:07      | —:—                        |            | 03:23 | 1h 09m     | 04:32 | 49m        | 05:22      | 16h 26m    | 21:48      | 49m                     | 22:38 | 1h 08m     | 23:47 |            | —:—   | 7h 33m     |                            | 01:20* – 03:24* | 2h 04m     | M <sub>\searrow</sub> bis ND <sub>-</sub> | Fr, 4. Jul  |
| Sa, 5. Jul  | MESZ          |                            |            | Astr. MD |      | 17:07      | 01:20      | —:—                        |            | 03:24 | 1h 08m     | 04:33 | 49m        | 05:22      | 16h 25m    | 21:48      | 49m                     | 22:37 | 1h 08m     | 23:45 |            | —:—   | 7h 35m     |                            | 01:36* – 03:26* | 1h 49m     | M <sub>\searrow</sub> bis ND <sub>-</sub> | Sa, 5. Jul  |
| So, 6. Jul  | MESZ          |                            |            | Astr. MD |      | 18:21      | 01:36      | —:—                        |            | 03:26 | 1h 08m     | 04:34 | 49m        | 05:23      | 16h 24m    | 21:47      | 48m                     | 22:36 | 1h 07m     | 23:44 |            | —:—   | 7h 36m     |                            | 01:59* – 03:27* | 1h 28m     | M <sub>\searrow</sub> bis ND <sub>-</sub> | So, 6. Jul  |
| Mo, 7. Jul  | MESZ          |                            |            | Astr. MD |      | 19:32      | 01:59      | —:—                        |            | 03:27 | 1h 07m     | 04:35 | 48m        | 05:24      | 16h 22m    | 21:47      | 48m                     | 22:35 | 1h 07m     | 23:43 |            | —:—   | 7h 38m     |                            | 02:30* – 03:29* | 58m        | M <sub>\searrow</sub> bis ND <sub>-</sub> | Mo, 7. Jul  |
| Di, 8. Jul  | MESZ          |                            |            | Astr. MD |      | 20:38      | 02:30      | —:—                        |            | 03:29 | 1h 07m     | 04:36 | 48m        | 05:25      | 16h 21m    | 21:46      | 48m                     | 22:35 | 1h 06m     | 23:41 |            | —:—   | 7h 39m     |                            | 03:14* – 03:31* | 16m        | M <sub>\searrow</sub> bis ND <sub>-</sub> | Di, 8. Jul  |
| Mi, 9. Jul  | MESZ          |                            |            | Astr. MD |      | 21:31      | 03:14      | —:—                        |            | 03:31 | 1h 06m     | 04:38 | 48m        | 05:26      | 16h 19m    | 21:45      | 48m                     | 22:34 | 1h 06m     | 23:40 |            | —:—   | 7h 41m     |                            | —:—:—:—:—       | —          | Mond stört                                | Mi, 9. Jul  |
| Do, 10. Jul | MESZ          |                            |            | Astr. MD | ☽    | 22:12      | 04:13      | —:—                        |            | 03:33 | 1h 06m     | 04:39 | 48m        | 05:27      | 16h 17m    | 21:45      | 48m                     | 22:33 | 1h 05m     | 23:38 |            | —:—   | 7h 43m     |                            | —:—:—:—:—       | —          | Mond stört                                | Do, 10. Jul |
| Fr, 11. Jul | MESZ          |                            |            | Astr. MD |      | 22:42      | 05:26      | —:—                        |            | 03:34 | 1h 05m     | 04:40 | 48m        | 05:28      | 16h 15m    | 21:44      | 47m                     | 22:32 | 1h 04m     | 23:37 |            | —:—   | 7h 45m     |                            | —:—:—:—:—       | —          | Mond stört                                | Fr, 11. Jul |
| Sa, 12. Jul | MESZ          |                            |            | Astr. MD |      | 23:03      | 06:46      | —:—                        |            | 03:36 | 1h 04m     | 04:41 | 47m        | 05:29      | 16h 13m    | 21:43      | 47m                     | 22:31 | 1h 04m     | 23:35 |            | —:—   | 7h 47m     |                            | —:—:—:—:—       | —          | Mond stört                                | Sa, 12. Jul |
| So, 13. Jul | MESZ          |                            |            | Astr. MD |      | 23:19      | 08:08      | —:—                        |            | 03:38 | 1h 04m     |       |            |            |            |            |                         |       |            |       |            |       |            |                            |                 |            |   |             |

| 1           | 2             | 3                          | 4          | 5                                   | 6    | 7          | 8          | 9                          | 10         | 11    | 12         | 13    | 14         | 15         | 16         | 17                      | 18         | 19    | 20         | 21    | 22         | 23       | 24                         | 25         | 26 | 27         | 28 | 29 |             |
|-------------|---------------|----------------------------|------------|-------------------------------------|------|------------|------------|----------------------------|------------|-------|------------|-------|------------|------------|------------|-------------------------|------------|-------|------------|-------|------------|----------|----------------------------|------------|----|------------|----|----|-------------|
| 2025        | Zeit-<br>zone | Astr. dunkel und kein Mond |            |                                     | Mond |            |            | Beginn der Morgendämmerung |            |       |            |       | Sonne      |            |            | Ende der Abenddämmerung |            |       |            |       | Nacht      | Astr. N. | Naut. dunkel und kein Mond |            |    | 2025       |    |    |             |
|             |               |                            | $\Delta t$ |                                     | Ph.  | $\nearrow$ | $\searrow$ | Astr.                      | $\Delta t$ | Naut. | $\Delta t$ | Bürg. | $\Delta t$ | $\nearrow$ | $\Delta t$ | $\searrow$              | $\Delta t$ | Bürg. | $\Delta t$ | Naut. | $\Delta t$ | Astr.    | $\Delta t$                 | $\Delta t$ |    | $\Delta t$ |    |    |             |
| So, 20. Jul | MESZ          | 01:20*–01:23*              | 2m         | AN <sub>+</sub> bis M <sub>7</sub>  |      | 00:50      | 18:03      | —:—                        |            | 03:53 | 1h 00m     | 04:53 | 45m        | 05:39      | 15h 55m    | 21:35                   | 45m        | 22:20 | 59m        | 23:20 | 2h 00m     | 01:20*   | 8h 05m                     | 34m        |    |            |    |    | So, 20. Jul |
| Mo, 21. Jul | MESZ          | 01:08*–02:07*              | 59m        | AN <sub>+</sub> bis AN <sub>-</sub> |      | 01:23      | 19:25      | 01:55                      | 2h 00m     | 03:55 | 59m        | 04:54 | 45m        | 05:40      | 15h 53m    | 21:33                   | 45m        | 22:19 | 58m        | 23:18 | 1h 50m     | 01:08*   | 8h 07m                     | 59m        |    |            |    |    | Mo, 21. Jul |
| Di, 22. Jul | MESZ          | 00:59*–02:16*              | 1h 16m     | AN <sub>+</sub> bis AN <sub>-</sub> |      | 02:10      | 20:32      | 02:07                      | 1h 50m     | 03:57 | 58m        | 04:56 | 45m        | 05:41      | 15h 50m    | 21:32                   | 45m        | 22:17 | 58m        | 23:16 | 1h 43m     | 00:59*   | 8h 10m                     | 1h 16m     |    |            |    |    | Di, 22. Jul |
| Mi, 23. Jul | MESZ          | 00:52*–02:23*              | 1h 31m     | AN <sub>+</sub> bis AN <sub>-</sub> |      | 03:16      | 21:19      | 02:16                      | 1h 43m     | 03:59 | 58m        | 04:58 | 45m        | 05:43      | 15h 48m    | 21:31                   | 44m        | 22:16 | 57m        | 23:13 | 1h 38m     | 00:52*   | 8h 13m                     | 1h 31m     |    |            |    |    | Mi, 23. Jul |
| Do, 24. Jul | MESZ          | 00:45*–02:30*              | 1h 44m     | AN <sub>+</sub> bis AN <sub>-</sub> | ●    | 04:36      | 21:51      | 02:23                      | 1h 38m     | 04:01 | 57m        | 04:59 | 44m        | 05:44      | 15h 45m    | 21:30                   | 44m        | 22:14 | 57m        | 23:11 | 1h 34m     | 00:45*   | 8h 15m                     | 1h 44m     |    |            |    |    | Do, 24. Jul |
| Fr, 25. Jul | MESZ          | 00:40*–02:35*              | 1h 55m     | AN <sub>+</sub> bis AN <sub>-</sub> |      | 06:02      | 22:13      | 02:30                      | 1h 34m     | 04:04 | 57m        | 05:01 | 44m        | 05:45      | 15h 42m    | 21:28                   | 44m        | 22:13 | 56m        | 23:09 | 1h 30m     | 00:40*   | 8h 18m                     | 1h 55m     |    |            |    |    | Fr, 25. Jul |
| Sa, 26. Jul | MESZ          | 00:34*–02:41*              | 2h 06m     | AN <sub>+</sub> bis AN <sub>-</sub> |      | 07:26      | 22:28      | 02:35                      | 1h 30m     | 04:06 | 56m        | 05:02 | 44m        | 05:47      | 15h 39m    | 21:27                   | 44m        | 22:11 | 55m        | 23:07 | 1h 27m     | 00:34*   | 8h 21m                     | 2h 06m     |    |            |    |    | Sa, 26. Jul |
| So, 27. Jul | MESZ          | 00:29*–02:46*              | 2h 16m     | AN <sub>+</sub> bis AN <sub>-</sub> |      | 08:47      | 22:41      | 02:41                      | 1h 27m     | 04:08 | 55m        | 05:04 | 44m        | 05:48      | 15h 36m    | 21:25                   | 43m        | 22:09 | 55m        | 23:05 | 1h 24m     | 00:29*   | 8h 24m                     | 2h 16m     |    |            |    |    | So, 27. Jul |
| Mo, 28. Jul | MESZ          | 00:24*–02:51*              | 2h 26m     | AN <sub>+</sub> bis AN <sub>-</sub> |      | 10:03      | 22:52      | 02:46                      | 1h 24m     | 04:10 | 55m        | 05:06 | 43m        | 05:50      | 15h 34m    | 21:24                   | 43m        | 22:07 | 54m        | 23:02 | 1h 21m     | 00:24*   | 8h 27m                     | 2h 26m     |    |            |    |    | Mo, 28. Jul |
| Di, 29. Jul | MESZ          | 00:20*–02:55*              | 2h 35m     | AN <sub>+</sub> bis AN <sub>-</sub> |      | 11:16      | 23:02      | 02:51                      | 1h 21m     | 04:13 | 54m        | 05:08 | 43m        | 05:51      | 15h 31m    | 21:22                   | 43m        | 22:06 | 54m        | 23:00 | 1h 19m     | 00:20*   | 8h 30m                     | 2h 35m     |    |            |    |    | Di, 29. Jul |
| Mi, 30. Jul | MESZ          | 00:15*–03:00*              | 2h 44m     | AN <sub>+</sub> bis AN <sub>-</sub> |      | 12:27      | 23:13      | 02:55                      | 1h 19m     | 04:15 | 54m        | 05:09 | 43m        | 05:53      | 15h 28m    | 21:21                   | 43m        | 22:04 | 53m        | 22:58 | 1h 17m     | 00:15*   | 8h 33m                     | 2h 44m     |    |            |    |    | Mi, 30. Jul |
| Do, 31. Jul | MESZ          | 00:11*–03:04*              | 2h 53m     | AN <sub>+</sub> bis AN <sub>-</sub> |      | 13:39      | 23:25      | 03:00                      | 1h 17m     | 04:17 | 53m        | 05:11 | 43m        | 05:54      | 15h 25m    | 21:19                   | 42m        | 22:02 | 53m        | 22:55 | 1h 15m     | 00:11*   | 8h 36m                     | 2h 53m     |    |            |    |    | Do, 31. Jul |
| Fr, 1. Aug  | MESZ          | 00:07*–03:08*              | 3h 01m     | AN <sub>+</sub> bis AN <sub>-</sub> | ☾    | 14:51      | 23:40      | 03:04                      | 1h 15m     | 04:19 | 53m        | 05:13 | 42m        | 05:56      | 15h 21m    | 21:18                   | 42m        | 22:00 | 52m        | 22:53 | 1h 13m     | 00:07*   | 8h 39m                     | 3h 01m     |    |            |    |    | Fr, 1. Aug  |
| Sa, 2. Aug  | MESZ          | 00:02*–03:12*              | 3h 09m     | AN <sub>+</sub> bis AN <sub>-</sub> |      | 16:05      | —:—        | 03:08                      | 1h 13m     | 04:22 | 52m        | 05:14 | 42m        | 05:57      | 15h 18m    | 21:16                   | 42m        | 21:58 | 52m        | 22:50 | 1h 11m     | 00:02*   | 8h 42m                     | 3h 09m     |    |            |    |    | Sa, 2. Aug  |
| So, 3. Aug  | MESZ          | 00:27*–03:16*              | 2h 48m     | M <sub>\</sub> bis AN <sub>-</sub>  |      | 17:17      | 00:00      | 03:12                      | 1h 11m     | 04:24 | 52m        | 05:16 | 42m        | 05:59      | 15h 15m    | 21:14                   | 42m        | 21:56 | 51m        | 22:48 | 1h 10m     | 23:58    | 8h 45m                     | 3h 17m     |    |            |    |    | So, 3. Aug  |
| Mo, 4. Aug  | MESZ          | 01:05*–03:20*              | 2h 14m     | M <sub>\</sub> bis AN <sub>-</sub>  |      | 18:25      | 00:27      | 03:16                      | 1h 10m     | 04:26 | 51m        | 05:18 | 42m        | 06:00      | 15h 12m    | 21:13                   | 41m        | 21:54 | 51m        | 22:46 | 1h 08m     | 23:54    | 8h 49m                     | 3h 25m     |    |            |    |    | Mo, 4. Aug  |
| Di, 5. Aug  | MESZ          | 01:58*–03:23*              | 1h 24m     | M <sub>\</sub> bis AN <sub>-</sub>  |      | 19:24      | 01:05      | 03:20                      | 1h 08m     | 04:28 | 51m        | 05:20 | 41m        | 06:02      | 15h 09m    | 21:11                   | 41m        | 21:52 | 50m        | 22:43 | 1h 07m     | 23:51    | 8h 52m                     | 3h 32m     |    |            |    |    | Di, 5. Aug  |
| Mi, 6. Aug  | MESZ          | 03:06*–03:27*              | 20m        | M <sub>\</sub> bis AN <sub>-</sub>  |      | 20:10      | 01:58      | 03:23                      | 1h 07m     | 04:31 | 50m        | 05:21 | 41m        | 06:03      | 15h 05m    | 21:09                   | 41m        | 21:50 | 50m        | 22:41 | 1h 06m     | 23:47    | 8h 55m                     | 3h 39m     |    |            |    |    | Mi, 6. Aug  |
| Do, 7. Aug  | MESZ          | —:—:—:—                    | –          | Mond stört                          |      | 20:43      | 03:06      | 03:27                      | 1h 06m     | 04:33 | 50m        | 05:23 | 41m        | 06:05      | 15h 02m    | 21:07                   | 41m        | 21:48 | 49m        | 22:38 | 1h 04m     | 23:43    | 8h 58m                     | 3h 47m     |    |            |    |    | Do, 7. Aug  |
| Fr, 8. Aug  | MESZ          | —:—:—:—                    | –          | Mond stört                          |      | 21:07      | 04:25      | 03:30                      | 1h 04m     | 04:35 | 49m        | 05:25 | 41m        | 06:06      | 14h 59m    | 21:05                   | 40m        | 21:46 | 49m        | 22:36 | 1h 03m     | 23:39    | 9h 02m                     | 3h 54m     |    |            |    |    | Fr, 8. Aug  |
| Sa, 9. Aug  | MESZ          | —:—:—:—                    | –          | Mond stört                          | ☉    | 21:26      | 05:48      | 03:34                      | 1h 03m     | 04:37 | 49m        | 05:27 | 40m        | 06:08      | 14h 55m    | 21:04                   | 40m        | 21:44 | 48m        | 22:33 | 1h 02m     | 23:36    | 9h 05m                     | 4h 01m     |    |            |    |    | Sa, 9. Aug  |
| So, 10. Aug | MESZ          | —:—:~:~:~                  | –          | Mond stört                          |      | 21:40      | 07:13      | 03:37                      | 1h 02m     | 04:40 | 48m        | 05:28 | 40m        | 06:09      | 14h 52m    | 21:02                   | 40m        | 21:42 | 48m        | 22:31 | 1h 01m     | 23:32    | 9h 08m                     | 4h 08m     |    |            |    |    | So, 10. Aug |
| Mo, 11. Aug | MESZ          | —:~:~:~:~                  | –          | Mond stört                          |      | 21:53      | 08:37      | 03:40                      | 1h 01m     | 04:42 | 48m        | 05:30 | 40m        | 06:11      | 14h 49m    | 21:00                   | 40m        | 21:40 | 48m        | 22:28 | 1h 00m     | 23:29    | 9h 12m                     | 4h 14m     |    |            |    |    | Mo, 11. Aug |
| Di, 12. Aug | MESZ          | —:~:~:~:~                  | –          | Mond stört                          |      | 22:05      | 10:00      | 03:44                      | 1h 00m     | 04:44 | 48m        | 05:32 | 40m        | 06:12      | 14h 45m    | 20:58                   | 40m        | 21:38 | 47m        | 22:26 | 59m        | 23:25    | 9h 15m                     | 4h 21m     |    |            |    |    | Di, 12. Aug |
| Mi, 13. Aug | MESZ          | —:~:~:~:~                  | –          | Mond stört                          |      | 22:18      | 11:25      | 03:47                      | 59m        | 04:46 | 47m        | 05:34 | 40m        | 06:14      | 14h 42m    | 20:56                   | 39m        | 21:36 | 47m        | 22:23 | 58m        | 23:22    | 9h 19m                     | 4h 28m     |    |            |    |    | Mi, 13. Aug |
| Do, 14. Aug | MESZ          | —:~:~:~:~                  | –          | Mond stört                          |      | 22:34      | 12:51      | 03:50                      | 58m        | 04:48 | 47m        | 05:36 | 39m        | 06:15      | 14h 38m    | 20:54                   | 39m        | 21:34 | 46m        | 22:21 | 57m        | 23:18    | 9h 22m                     | 4h 34m     |    |            |    |    | Do, 14. Aug |
| Fr, 15. Aug | MESZ          | —:~:~:~:~                  | –          | Mond stört                          |      | 22:54      | 14:20      | 03:53                      | 57m        | 04:50 | 46m        | 05:37 | 39m        | 06:17      | 14h 35m    | 20:52                   | 39m        | 21:32 | 46m        | 22:18 | 56m        | 23:15    | 9h 26m                     | 4h 40m     |    |            |    |    | Fr, 15. Aug |
| Sa, 16. Aug | MESZ          | 23:12–23:22                | 10m        | AN <sub>+</sub> bis M <sub>7</sub>  | ☾    | 23:22      | 15:49      | 03:56                      | 56m        | 04:53 | 46m        | 05:39 | 39m        | 06:19      | 14h 31m    | 20:50                   | 39m        | 21:30 | 46m        | 22:16 | 55m        | 23:12    | 9h 29m                     | 4h 47m     |    |            |    |    | Sa, 16. Aug |
| So, 17. Aug | MESZ          | 23:08–00:04*               | 55m        | AN <sub>+</sub> bis M <sub>7</sub>  |      | —:—        | 17:13      | 03:59                      | 55m        | 04:55 | 46m        | 05:41 | 39m        | 06:20      | 14h 28m    | 20:48                   | 39m        | 21:27 | 45m        | 22:13 | 55m        | 23:08    | 9h 33m                     | 4h 53m     |    |            |    |    | So, 17. Aug |
| Mo, 18. Aug | MESZ          | 23:05–01:02*               | 1h 57m     | AN <sub>+</sub> bis M <sub>7</sub>  |      | 00:04      | 18:24      | 04:02                      | 55m        | 04:57 | 45m        | 05:43 | 39m        | 06:22      | 14h 24m    | 20:46                   | 38m        | 21:25 | 45m        | 22:11 | 54m        | 23:05    | 9h 37m                     | 4h 59m     |    |            |    |    | Mo, 18. Aug |
| Di, 19. Aug | MESZ          | 23:02–02:16*               | 3h 14m     | AN <sub>+</sub> bis M <sub>7</sub>  |      | 01:02      | 19:16      | 04:04                      | 54m        | 04:59 | 45m        | 05:44 | 38m        | 06:23      | 14h 20m    | 20:44                   | 38m        | 21:23 | 45m        | 22:08 | 53m        | 23:02    | 9h 40m                     | 5h 05m     |    |            |    |    | Di, 19. Aug |
| Mi, 20. Aug | MESZ          | 22:58–03:39*               | 4h 40m     | AN <sub>+</sub> bis M <sub>7</sub>  |      | 02:16      | 19:52      | 04:07                      | 53m        | 05:01 | 45m        | 05:46 | 38m        | 06:25      | 14h 17m    | 20:42                   | 38m        | 21:21 | 44m        | 22:06 | 52m        | 22:58    | 9h 44m                     | 5h 11m     |    |            |    |    | Mi, 20. Aug |
| Do, 21. Aug | MESZ          | 22:55–04:13*               | 5h 17m     | AN <sub>+</sub> bis AN <sub>-</sub> |      | 03:39      | 20:17      | 04:10                      | 52m        | 05:03 | 44m        | 05:48 | 38m        | 06:26      | 14h 13m    | 20:40                   | 38m        | 21:18 | 44m        | 22:03 | 52m        | 22:55    | 9h 47m                     | 5h 17m     |    |            |    |    | Do, 21. Aug |
| Fr, 22. Aug | MESZ          | 22:52–04:15*               | 5h 23m     | AN <sub>+</sub> bis AN <sub>-</sub> |      | 05:04      | 20:34      | 04:13                      | 52m        | 05:05 | 44m        | 05:50 | 38m        | 06:28      | 14h 09m    | 20:38                   | 38m        | 21:16 | 44m        | 22:00 | 51m        | 22:52    | 9h 51m                     | 5h 23m     |    |            |    |    | Fr, 22. Aug |
| Sa, 23. Aug | MESZ          | 22:49–04:18*               | 5h 29m     | AN <sub>+</sub> bis AN <sub>-</sub> | ●    | 06:25      | 20:48      | 04:15                      | 51m        | 05:07 | 44m        | 05:51 | 38m        | 06:30      | 14h 06m    | 20:36                   | 38m        | 21:14 | 43m        | 21:58 | 51m        | 22:49    | 9h 55m                     | 5h 29m     |    |            |    |    | Sa, 23. Aug |
| So, 24. Aug | MESZ          | 22:46–04:21*               | 5h 34m     | AN <sub>+</sub> bis AN <sub>-</sub> |      | 07:43      | 20:59      | 04:18                      | 51m        | 05:09 | 43m        | 05:53 | 38m        | 06:31      | 14h 02m    | 20:34                   | 37m        | 21:12 | 43m        | 21:55 | 50m        | 22:46    | 9h 58m                     | 5h 34m     |    |            |    |    | So, 24. Aug |
| Mo, 25. Aug | MESZ          | 22:43–04:23*               | 5h 40m     | AN <sub>+</sub> bis AN <sub>-</sub> |      | 08:57      | 21:10      | 04:21                      | 50m        | 05:11 | 43m        | 05:55 | 37m        | 06:33      | 13h 58m    | 20:32                   | 37m        | 21:09 | 43m        | 21:53 | 49m        | 22:43    | 10h 02m                    | 5h 40m     |    |            |    |    | Mo, 25. Aug |
| Di, 26. Aug | MESZ          | 22:40–04:26*               | 5h 46m     | AN <sub>+</sub> bis AN <sub>-</sub> |      | 10:10      | 21:20      | 04:23                      | 49m        | 05:13 | 43m        | 05:57 | 37m        | 06:34      | 13h 55m    | 20:30                   | 37m        | 21:07 | 43m        | 21:50 | 49m        | 22:40    | 10h 06m                    | 5h 46m     |    |            |    |    | Di, 26. Aug |
| Mi, 27. Aug | MESZ          | 22:36–04:28*               | 5h 51m     | AN <sub>+</sub> bis AN <sub>-</sub> |      | 11:22      | 21:31      | 04:26                      | 49m        | 05:15 | 43m        | 05:58 | 37m        | 06:36      | 13h 51m    | 20:27                   | 37m        | 21:05 | 42m        | 21:48 | 48m        | 22:36    | 10h 10m                    | 5h 51m     |    |            |    |    | Mi, 27. Aug |
| Do, 28. Aug | MESZ          | 22:33–04:31*               | 5h 57m     | AN <sub>+</sub> bis AN <sub>-</sub> |      | 12:34      | 21:45      | 04:28                      | 48m        | 05:17 | 42m        | 06:00 | 37m        | 06:37      | 13h 47m    | 20:25                   | 37m        | 21:02 | 42m        | 21:45 | 48m        | 22:33    | 10h 13m                    | 5h 57m     |    |            |    |    | Do, 28. Aug |
| Fr, 29. Aug | MESZ          | 22:30–04:33*               | 6h 02m     | AN <sub>+</sub> bis AN <sub>-</sub> |      | 13:47      | 22:02      | 04:31                      | 48m        | 05:19 | 42m        | 06:02 | 37m        | 06:39      | 13h 44m    | 20:23                   | 37m        | 21:00 | 42m        | 21:42 | 47m        | 22:30    | 10h 17m                    | 6h 02m     |    |            |    |    | Fr, 29. Aug |
|             |               |                            |            |                                     |      |            |            |                            |            |       |            |       |            |            |            |                         |            |       |            |       |            |          |                            |            |    |            |    |    |             |

| 1           | 2     | 3                          | 4          | 5                                   | 6    | 7          | 8            | 9                          | 10         | 11    | 12         | 13    | 14         | 15         | 16         | 17                      | 18         | 19    | 20         | 21    | 22         | 23       | 24                         | 25         | 26 | 27         | 28 | 29          |
|-------------|-------|----------------------------|------------|-------------------------------------|------|------------|--------------|----------------------------|------------|-------|------------|-------|------------|------------|------------|-------------------------|------------|-------|------------|-------|------------|----------|----------------------------|------------|----|------------|----|-------------|
| 2025        | Zeit- | Astr. dunkel und kein Mond |            |                                     | Mond |            |              | Beginn der Morgendämmerung |            |       |            |       | Sonne      |            |            | Ende der Abenddämmerung |            |       |            |       | Nacht      | Astr. N. | Naut. dunkel und kein Mond |            |    | 2025       |    |             |
|             | zone  |                            | $\Delta t$ |                                     | Ph.  | $\uparrow$ | $\downarrow$ | Astr.                      | $\Delta t$ | Naut. | $\Delta t$ | Bürg. | $\Delta t$ | $\uparrow$ | $\Delta t$ | $\downarrow$            | $\Delta t$ | Bürg. | $\Delta t$ | Naut. | $\Delta t$ | Astr.    | $\Delta t$                 | $\Delta t$ |    | $\Delta t$ |    |             |
| Mo, 8. Sep  | MESZ  | —:—:—:—                    | —          | Mond stört                          |      | 20:12      | 07:37        | 04:54                      | 44m        | 05:38 | 40m        | 06:19 | 36m        | 06:55      | 13h 06m    | 20:01                   | 35m        | 20:37 | 40m        | 21:17 | 44m        | 22:01    | 10h 55m                    | 6h 54m     |    |            |    | Mo, 8. Sep  |
| Di, 9. Sep  | MESZ  | —:—:—:—                    | —          | Mond stört                          |      | 20:25      | 09:03        | 04:56                      | 44m        | 05:40 | 40m        | 06:20 | 36m        | 06:56      | 13h 02m    | 19:59                   | 35m        | 20:34 | 39m        | 21:14 | 43m        | 21:58    | 10h 59m                    | 6h 59m     |    |            |    | Di, 9. Sep  |
| Mi, 10. Sep | MESZ  | —:—:—:—                    | —          | Mond stört                          |      | 20:40      | 10:32        | 04:58                      | 43m        | 05:42 | 40m        | 06:22 | 35m        | 06:58      | 12h 58m    | 19:56                   | 35m        | 20:32 | 39m        | 21:12 | 43m        | 21:55    | 11h 03m                    | 7h 04m     |    |            |    | Mi, 10. Sep |
| Do, 11. Sep | MESZ  | —:—:—:—                    | —          | Mond stört                          |      | 20:59      | 12:03        | 05:00                      | 43m        | 05:44 | 39m        | 06:24 | 35m        | 06:59      | 12h 54m    | 19:54                   | 35m        | 20:30 | 39m        | 21:09 | 43m        | 21:53    | 11h 06m                    | 7h 09m     |    |            |    | Do, 11. Sep |
| Fr, 12. Sep | MESZ  | —:—:~:~                    | —          | Mond stört                          |      | 21:25      | 13:34        | 05:02                      | 43m        | 05:45 | 39m        | 06:25 | 35m        | 07:01      | 12h 50m    | 19:52                   | 35m        | 20:27 | 39m        | 21:07 | 42m        | 21:50    | 11h 10m                    | 7h 14m     |    |            |    | Fr, 12. Sep |
| Sa, 13. Sep | MESZ  | 21:47–22:02                | 14m        | AN <sub>+</sub> bis M <sub>7</sub>  |      | 22:02      | 15:02        | 05:04                      | 42m        | 05:47 | 39m        | 06:27 | 35m        | 07:03      | 12h 46m    | 19:50                   | 35m        | 20:25 | 39m        | 21:04 | 42m        | 21:47    | 11h 14m                    | 7h 19m     |    |            |    | Sa, 13. Sep |
| So, 14. Sep | MESZ  | 21:44–22:55                | 1h 10m     | AN <sub>+</sub> bis M <sub>7</sub>  | ☉    | 22:55      | 16:18        | 05:06                      | 42m        | 05:49 | 39m        | 06:28 | 35m        | 07:04      | 12h 43m    | 19:47                   | 35m        | 20:23 | 39m        | 21:02 | 42m        | 21:44    | 11h 18m                    | 7h 24m     |    |            |    | So, 14. Sep |
| Mo, 15. Sep | MESZ  | 21:42–00:04*               | 2h 22m     | AN <sub>+</sub> bis M <sub>7</sub>  |      | —:—        | 17:15        | 05:08                      | 42m        | 05:51 | 39m        | 06:30 | 35m        | 07:06      | 12h 39m    | 19:45                   | 35m        | 20:20 | 39m        | 20:59 | 42m        | 21:42    | 11h 22m                    | 7h 28m     |    |            |    | Mo, 15. Sep |
| Di, 16. Sep | MESZ  | 21:39–01:24*               | 3h 45m     | AN <sub>+</sub> bis M <sub>7</sub>  |      | 00:04      | 17:55        | 05:10                      | 42m        | 05:53 | 39m        | 06:32 | 35m        | 07:07      | 12h 35m    | 19:43                   | 35m        | 20:18 | 38m        | 20:57 | 41m        | 21:39    | 11h 26m                    | 7h 33m     |    |            |    | Di, 16. Sep |
| Mi, 17. Sep | MESZ  | 21:36–02:47*               | 5h 11m     | AN <sub>+</sub> bis M <sub>7</sub>  |      | 01:24      | 18:22        | 05:12                      | 41m        | 05:54 | 39m        | 06:33 | 35m        | 07:09      | 12h 31m    | 19:40                   | 35m        | 20:16 | 38m        | 20:55 | 41m        | 21:36    | 11h 30m                    | 7h 38m     |    |            |    | Mi, 17. Sep |
| Do, 18. Sep | MESZ  | 21:34–04:09*               | 6h 34m     | AN <sub>+</sub> bis M <sub>7</sub>  |      | 02:47      | 18:41        | 05:14                      | 41m        | 05:56 | 38m        | 06:35 | 35m        | 07:10      | 12h 27m    | 19:38                   | 35m        | 20:13 | 38m        | 20:52 | 41m        | 21:34    | 11h 33m                    | 7h 42m     |    |            |    | Do, 18. Sep |
| Fr, 19. Sep | MESZ  | 21:31–05:18*               | 7h 47m     | AN <sub>+</sub> bis AN <sub>-</sub> |      | 04:09      | 18:56        | 05:16                      | 41m        | 05:58 | 38m        | 06:37 | 35m        | 07:12      | 12h 23m    | 19:36                   | 35m        | 20:11 | 38m        | 20:50 | 41m        | 21:31    | 11h 37m                    | 7h 47m     |    |            |    | Fr, 19. Sep |
| Sa, 20. Sep | MESZ  | 21:28–05:20*               | 7h 51m     | AN <sub>+</sub> bis AN <sub>-</sub> |      | 05:26      | 19:07        | 05:18                      | 41m        | 06:00 | 38m        | 06:38 | 35m        | 07:14      | 12h 19m    | 19:34                   | 35m        | 20:09 | 38m        | 20:47 | 41m        | 21:28    | 11h 41m                    | 7h 51m     |    |            |    | Sa, 20. Sep |
| So, 21. Sep | MESZ  | 21:26–05:22*               | 7h 56m     | AN <sub>+</sub> bis AN <sub>-</sub> | ☀    | 06:41      | 19:18        | 05:20                      | 41m        | 06:01 | 38m        | 06:40 | 35m        | 07:15      | 12h 16m    | 19:31                   | 35m        | 20:06 | 38m        | 20:45 | 40m        | 21:26    | 11h 45m                    | 7h 56m     |    |            |    | So, 21. Sep |
| Mo, 22. Sep | MESZ  | 21:23–05:24*               | 8h 00m     | AN <sub>+</sub> bis AN <sub>-</sub> |      | 07:54      | 19:28        | 05:22                      | 40m        | 06:03 | 38m        | 06:42 | 35m        | 07:17      | 12h 12m    | 19:29                   | 35m        | 20:04 | 38m        | 20:42 | 40m        | 21:23    | 11h 49m                    | 8h 00m     |    |            |    | Mo, 22. Sep |
| Di, 23. Sep | MESZ  | 21:21–05:26*               | 8h 05m     | AN <sub>+</sub> bis AN <sub>-</sub> |      | 09:06      | 19:39        | 05:24                      | 40m        | 06:05 | 38m        | 06:43 | 35m        | 07:18      | 12h 08m    | 19:27                   | 35m        | 20:02 | 38m        | 20:40 | 40m        | 21:21    | 11h 53m                    | 8h 05m     |    |            |    | Di, 23. Sep |
| Mi, 24. Sep | MESZ  | 21:18–05:28*               | 8h 09m     | AN <sub>+</sub> bis AN <sub>-</sub> |      | 10:18      | 19:52        | 05:26                      | 40m        | 06:06 | 38m        | 06:45 | 35m        | 07:20      | 12h 04m    | 19:24                   | 35m        | 19:59 | 38m        | 20:38 | 40m        | 21:18    | 11h 57m                    | 8h 09m     |    |            |    | Mi, 24. Sep |
| Do, 25. Sep | MESZ  | 21:15–05:30*               | 8h 14m     | AN <sub>+</sub> bis AN <sub>-</sub> |      | 11:31      | 20:07        | 05:28                      | 40m        | 06:08 | 38m        | 06:46 | 35m        | 07:22      | 12h 00m    | 19:22                   | 35m        | 19:57 | 38m        | 20:35 | 40m        | 21:15    | 12h 00m                    | 8h 14m     |    |            |    | Do, 25. Sep |
| Fr, 26. Sep | MESZ  | 21:13–05:31*               | 8h 18m     | AN <sub>+</sub> bis AN <sub>-</sub> |      | 12:45      | 20:28        | 05:30                      | 40m        | 06:10 | 38m        | 06:48 | 35m        | 07:23      | 11h 56m    | 19:20                   | 35m        | 19:55 | 38m        | 20:33 | 40m        | 21:13    | 12h 04m                    | 8h 18m     |    |            |    | Fr, 26. Sep |
| Sa, 27. Sep | MESZ  | 21:10–05:33*               | 8h 22m     | AN <sub>+</sub> bis AN <sub>-</sub> |      | 13:56      | 20:57        | 05:31                      | 40m        | 06:11 | 38m        | 06:50 | 35m        | 07:25      | 11h 52m    | 19:18                   | 35m        | 19:53 | 37m        | 20:31 | 39m        | 21:10    | 12h 08m                    | 8h 22m     |    |            |    | Sa, 27. Sep |
| So, 28. Sep | MESZ  | 21:37–05:35*               | 7h 58m     | M <sub>7</sub> bis AN <sub>-</sub>  |      | 15:01      | 21:37        | 05:33                      | 39m        | 06:13 | 38m        | 06:51 | 35m        | 07:26      | 11h 49m    | 19:15                   | 35m        | 19:50 | 37m        | 20:28 | 39m        | 21:08    | 12h 12m                    | 8h 27m     |    |            |    | So, 28. Sep |
| Mo, 29. Sep | MESZ  | 22:31–05:37*               | 7h 06m     | M <sub>7</sub> bis AN <sub>-</sub>  |      | 15:56      | 22:31        | 05:35                      | 39m        | 06:15 | 37m        | 06:53 | 35m        | 07:28      | 11h 45m    | 19:13                   | 35m        | 19:48 | 37m        | 20:26 | 39m        | 21:06    | 12h 16m                    | 8h 31m     |    |            |    | Mo, 29. Sep |
| Di, 30. Sep | MESZ  | 23:38–05:39*               | 6h 00m     | M <sub>7</sub> bis AN <sub>-</sub>  | ☾    | 16:38      | 23:38        | 05:37                      | 39m        | 06:16 | 37m        | 06:54 | 35m        | 07:30      | 11h 41m    | 19:11                   | 35m        | 19:46 | 37m        | 20:24 | 39m        | 21:03    | 12h 20m                    | 8h 35m     |    |            |    | Di, 30. Sep |
| Mi, 1. Okt  | MESZ  | 00:55*–05:40*              | 4h 45m     | M <sub>7</sub> bis AN <sub>-</sub>  |      | 17:10      | —:—          | 05:39                      | 39m        | 06:18 | 37m        | 06:56 | 35m        | 07:31      | 11h 37m    | 19:09                   | 35m        | 19:44 | 37m        | 20:21 | 39m        | 21:01    | 12h 24m                    | 8h 39m     |    |            |    | Mi, 1. Okt  |
| Do, 2. Okt  | MESZ  | 02:17*–05:42*              | 3h 25m     | M <sub>7</sub> bis AN <sub>-</sub>  |      | 17:33      | 00:55        | 05:40                      | 39m        | 06:20 | 37m        | 06:58 | 35m        | 07:33      | 11h 33m    | 19:06                   | 35m        | 19:41 | 37m        | 20:19 | 39m        | 20:58    | 12h 28m                    | 8h 43m     |    |            |    | Do, 2. Okt  |
| Fr, 3. Okt  | MESZ  | 03:41*–05:44*              | 2h 03m     | M <sub>7</sub> bis AN <sub>-</sub>  |      | 17:50      | 02:17        | 05:42                      | 39m        | 06:21 | 37m        | 06:59 | 35m        | 07:34      | 11h 29m    | 19:04                   | 35m        | 19:39 | 37m        | 20:17 | 39m        | 20:56    | 12h 31m                    | 8h 47m     |    |            |    | Fr, 3. Okt  |
| Sa, 4. Okt  | MESZ  | 05:06*–05:46*              | 40m        | M <sub>7</sub> bis AN <sub>-</sub>  |      | 18:05      | 03:41        | 05:44                      | 39m        | 06:23 | 37m        | 07:01 | 35m        | 07:36      | 11h 25m    | 19:02                   | 35m        | 19:37 | 37m        | 20:15 | 39m        | 20:54    | 12h 35m                    | 8h 51m     |    |            |    | Sa, 4. Okt  |
| So, 5. Okt  | MESZ  | —:~:~:~                    | —          | Mond stört                          |      | 18:18      | 05:06        | 05:46                      | 39m        | 06:25 | 37m        | 07:02 | 35m        | 07:38      | 11h 21m    | 19:00                   | 35m        | 19:35 | 37m        | 20:12 | 38m        | 20:51    | 12h 39m                    | 8h 55m     |    |            |    | So, 5. Okt  |
| Mo, 6. Okt  | MESZ  | —:~:~:~                    | —          | Mond stört                          |      | 18:31      | 06:32        | 05:47                      | 39m        | 06:26 | 37m        | 07:04 | 35m        | 07:39      | 11h 18m    | 18:57                   | 35m        | 19:32 | 37m        | 20:10 | 38m        | 20:49    | 12h 43m                    | 9h 00m     |    |            |    | Mo, 6. Okt  |
| Di, 7. Okt  | MESZ  | —:~:~:~                    | —          | Mond stört                          | ☽    | 18:45      | 08:01        | 05:49                      | 38m        | 06:28 | 37m        | 07:06 | 35m        | 07:41      | 11h 14m    | 18:55                   | 35m        | 19:30 | 37m        | 20:08 | 38m        | 20:47    | 12h 47m                    | 9h 03m     |    |            |    | Di, 7. Okt  |
| Mi, 8. Okt  | MESZ  | —:~:~:~                    | —          | Mond stört                          |      | 19:02      | 09:33        | 05:51                      | 38m        | 06:30 | 37m        | 07:07 | 35m        | 07:43      | 11h 10m    | 18:53                   | 35m        | 19:28 | 37m        | 20:06 | 38m        | 20:44    | 12h 51m                    | 9h 07m     |    |            |    | Mi, 8. Okt  |
| Do, 9. Okt  | MESZ  | —:~:~:~                    | —          | Mond stört                          |      | 19:26      | 11:08        | 05:52                      | 38m        | 06:31 | 37m        | 07:09 | 35m        | 07:44      | 11h 06m    | 18:51                   | 35m        | 19:26 | 37m        | 20:04 | 38m        | 20:42    | 12h 54m                    | 9h 11m     |    |            |    | Do, 9. Okt  |
| Fr, 10. Okt | MESZ  | —:~:~:~                    | —          | Mond stört                          |      | 19:59      | 12:41        | 05:54                      | 38m        | 06:33 | 37m        | 07:10 | 35m        | 07:46      | 11h 02m    | 18:49                   | 35m        | 19:24 | 37m        | 20:01 | 38m        | 20:40    | 12h 58m                    | 9h 15m     |    |            |    | Fr, 10. Okt |
| Sa, 11. Okt | MESZ  | 20:38–20:48                | 10m        | AN <sub>+</sub> bis M <sub>7</sub>  |      | 20:48      | 14:05        | 05:56                      | 38m        | 06:34 | 37m        | 07:12 | 35m        | 07:47      | 10h 59m    | 18:46                   | 35m        | 19:22 | 37m        | 19:59 | 38m        | 20:38    | 13h 02m                    | 9h 19m     |    |            |    | Sa, 11. Okt |
| So, 12. Okt | MESZ  | 20:36–21:54                | 1h 18m     | AN <sub>+</sub> bis M <sub>7</sub>  |      | 21:54      | 15:11        | 05:57                      | 38m        | 06:36 | 37m        | 07:14 | 35m        | 07:49      | 10h 55m    | 18:44                   | 35m        | 19:20 | 37m        | 19:57 | 38m        | 20:36    | 13h 06m                    | 9h 23m     |    |            |    | So, 12. Okt |
| Mo, 13. Okt | MESZ  | 20:34–23:13                | 2h 39m     | AN <sub>+</sub> bis M <sub>7</sub>  | ☾    | 23:13      | 15:57        | 05:59                      | 38m        | 06:38 | 37m        | 07:15 | 35m        | 07:51      | 10h 51m    | 18:42                   | 35m        | 19:18 | 37m        | 19:55 | 38m        | 20:34    | 13h 10m                    | 9h 27m     |    |            |    | Mo, 13. Okt |
| Di, 14. Okt | MESZ  | 20:31–00:35*               | 4h 04m     | AN <sub>+</sub> bis M <sub>7</sub>  |      | —:—        | 16:27        | 06:01                      | 38m        | 06:39 | 37m        | 07:17 | 35m        | 07:52      | 10h 47m    | 18:40                   | 35m        | 19:15 | 37m        | 19:53 | 38m        | 20:31    | 13h 14m                    | 9h 30m     |    |            |    | Di, 14. Okt |
| Mi, 15. Okt | MESZ  | 20:29–01:57*               | 5h 27m     | AN <sub>+</sub> bis M <sub>7</sub>  |      | 00:35      | 16:48        | 06:02                      | 38m        | 06:41 | 37m        | 07:19 | 35m        | 07:54      | 10h 43m    | 18:38                   | 35m        | 19:13 | 37m        | 19:51 | 38m        | 20:29    | 13h 17m                    | 9h 34m     |    |            |    | Mi, 15. Okt |
| Do, 16. Okt | MESZ  | 20:27–03:15*               | 6h 47m     | AN <sub>+</sub> bis M <sub>7</sub>  |      | 01:57      | 17:04        | 06:04                      | 38m        | 06:42 | 37m        | 07:20 | 35m        | 07:56      | 10h 40m    | 18:36                   | 35m        | 19:11 | 37m        | 19:49 | 38m        | 20:27    | 13h 21m                    | 9h 38m     |    |            |    | Do, 16. Okt |
| Fr, 17. Okt | MESZ  | 20:25–04:29*               | 8h 04m     | AN <sub>+</sub> bis M <sub>7</sub>  |      | 03:15      | 17:16        | 06:06                      | 38m        | 06:44 | 37m        | 07:22 | 35m        | 07:57      | 10h 36m    | 18:34                   | 35m        | 19:09 | 37m        | 19:47 | 38m        | 20:25    | 13h 25m                    | 9h 41m     |    |            |    | Fr, 17. Okt |
| Sa, 18. Okt | MESZ  | 20:23–05:42*               | 9h 18m     | AN <sub>+</sub> bis M <sub>7</sub>  |      | 04:29      | 17:27        | 06:07                      | 38m        | 06:46 | 37m        | 07:23 | 35m        | 07:59      | 10h 32m    | 18:32                   | 35m        | 19:07 | 37m        | 19:45 | 38m        | 20:23    | 13h 29m                    | 9h 45m     |    |            |    | Sa, 18. Okt |
| So, 19. Okt | MESZ  | 20:21–06:10*               | 9h 49m     | AN <sub>+</sub> bis AN <sub>-</sub> |      | 05:42      | 17:37        | 06:09                      | 38m        | 06:47 | 37m        | 07:25 | 35m        | 08:01      | 10h 28m    | 18:30                   | 35m        | 19:05 | 37m        | 19:43 | 38m        | 20:21    | 13h 32m                    | 9h 49m     |    |            |    | So, 19. Okt |
| Mo, 20. Okt | MESZ  | 20:19–06:12*               |            |                                     |      |            |              |                            |            |       |            |       |            |            |            |                         |            |       |            |       |            |          |                            |            |    |            |    |             |

| 1           | 2             | 3                          | 4       | 5                                   | 6    | 7          | 8          | 9                          | 10         | 11    | 12         | 13    | 14         | 15         | 16         | 17                      | 18         | 19    | 20         | 21    | 22         | 23       | 24                         | 25         | 26 | 27         | 28 | 29          |
|-------------|---------------|----------------------------|---------|-------------------------------------|------|------------|------------|----------------------------|------------|-------|------------|-------|------------|------------|------------|-------------------------|------------|-------|------------|-------|------------|----------|----------------------------|------------|----|------------|----|-------------|
| 2025        | Zeit-<br>zone | Astr. dunkel und kein Mond |         |                                     | Mond |            |            | Beginn der Morgendämmerung |            |       |            |       | Sonne      |            |            | Ende der Abenddämmerung |            |       |            |       | Nacht      | Astr. N. | Naut. dunkel und kein Mond |            |    | 2025       |    |             |
|             |               | $\Delta t$                 |         |                                     | Ph.  | $\nearrow$ | $\searrow$ | Astr.                      | $\Delta t$ | Naut. | $\Delta t$ | Bürg. | $\Delta t$ | $\nearrow$ | $\Delta t$ | $\searrow$              | $\Delta t$ | Bürg. | $\Delta t$ | Naut. | $\Delta t$ | Astr.    | $\Delta t$                 | $\Delta t$ |    | $\Delta t$ |    |             |
| Di, 28. Okt |               | 21:36–05:25*               | 7h 48m  | M <sub>\</sub> bis AN <sub>\</sub>  |      | 14:09      | 21:36      | 05:23                      | 38m        | 06:02 | 38m        | 06:40 | 36m        | 07:16      | 9h 55m     | 17:12                   | 36m        | 17:48 | 38m        | 18:27 | 38m        | 19:05    | 14h 06m                    | 10h 19m    |    |            |    | Di, 28. Okt |
| Mi, 29. Okt |               | 22:54–05:26*               | 6h 32m  | M <sub>\</sub> bis AN <sub>\</sub>  | ☾    | 14:35      | 22:54      | 05:25                      | 38m        | 06:03 | 38m        | 06:41 | 36m        | 07:18      | 9h 51m     | 17:10                   | 36m        | 17:47 | 38m        | 18:25 | 38m        | 19:03    | 14h 09m                    | 10h 23m    |    |            |    | Mi, 29. Okt |
| Do, 30. Okt |               | 00:14*–05:28*              | 5h 13m  | M <sub>\</sub> bis AN <sub>\</sub>  |      | 14:54      | —:—        | 05:26                      | 38m        | 06:05 | 38m        | 06:43 | 36m        | 07:20      | 9h 48m     | 17:08                   | 36m        | 17:45 | 38m        | 18:23 | 38m        | 19:02    | 14h 13m                    | 10h 26m    |    |            |    | Do, 30. Okt |
| Fr, 31. Okt |               | 01:36*–05:29*              | 3h 53m  | M <sub>\</sub> bis AN <sub>\</sub>  |      | 15:09      | 00:14      | 05:28                      | 38m        | 06:06 | 38m        | 06:45 | 36m        | 07:22      | 9h 44m     | 17:06                   | 36m        | 17:43 | 38m        | 18:22 | 38m        | 19:00    | 14h 16m                    | 10h 29m    |    |            |    | Fr, 31. Okt |
| Sa, 1. Nov  |               | 02:59*–05:31*              | 2h 31m  | M <sub>\</sub> bis AN <sub>\</sub>  |      | 15:22      | 01:36      | 05:29                      | 38m        | 06:08 | 38m        | 06:46 | 37m        | 07:23      | 9h 41m     | 17:05                   | 37m        | 17:42 | 38m        | 18:20 | 38m        | 18:58    | 14h 20m                    | 10h 32m    |    |            |    | Sa, 1. Nov  |
| So, 2. Nov  |               | 04:25*–05:32*              | 1h 07m  | M <sub>\</sub> bis AN <sub>\</sub>  |      | 15:35      | 02:59      | 05:31                      | 38m        | 06:09 | 38m        | 06:48 | 37m        | 07:25      | 9h 37m     | 17:03                   | 37m        | 17:40 | 38m        | 18:18 | 38m        | 18:57    | 14h 23m                    | 10h 35m    |    |            |    | So, 2. Nov  |
| Mo, 3. Nov  |               | —:—:—:—                    | –       | Mond stört                          |      | 15:48      | 04:25      | 05:32                      | 38m        | 06:11 | 38m        | 06:49 | 37m        | 07:27      | 9h 34m     | 17:01                   | 37m        | 17:38 | 38m        | 18:17 | 38m        | 18:55    | 14h 27m                    | 10h 38m    |    |            |    | Mo, 3. Nov  |
| Di, 4. Nov  |               | —:—:—:—                    | –       | Mond stört                          |      | 16:04      | 05:55      | 05:34                      | 38m        | 06:12 | 38m        | 06:51 | 37m        | 07:28      | 9h 30m     | 16:59                   | 37m        | 17:37 | 38m        | 18:15 | 38m        | 18:54    | 14h 30m                    | 10h 41m    |    |            |    | Di, 4. Nov  |
| Mi, 5. Nov  |               | —:—:~:~:~                  | –       | Mond stört                          | ☾    | 16:25      | 07:29      | 05:35                      | 38m        | 06:14 | 38m        | 06:53 | 37m        | 07:30      | 9h 27m     | 16:58                   | 37m        | 17:35 | 38m        | 18:14 | 38m        | 18:52    | 14h 34m                    | 10h 44m    |    |            |    | Mi, 5. Nov  |
| Do, 6. Nov  |               | —:~:~:~:~                  | –       | Mond stört                          |      | 16:54      | 09:06      | 05:37                      | 38m        | 06:15 | 38m        | 06:54 | 37m        | 07:32      | 9h 24m     | 16:56                   | 37m        | 17:34 | 38m        | 18:12 | 38m        | 18:51    | 14h 37m                    | 10h 47m    |    |            |    | Do, 6. Nov  |
| Fr, 7. Nov  |               | —:~:~:~:~                  | –       | Mond stört                          |      | 17:37      | 10:38      | 05:38                      | 38m        | 06:17 | 38m        | 06:56 | 37m        | 07:34      | 9h 20m     | 16:54                   | 37m        | 17:32 | 38m        | 18:11 | 38m        | 18:50    | 14h 40m                    | 10h 50m    |    |            |    | Fr, 7. Nov  |
| Sa, 8. Nov  |               | —:~:~:~:~                  | –       | Mond stört                          |      | 18:38      | 11:55      | 05:40                      | 38m        | 06:19 | 38m        | 06:57 | 37m        | 07:35      | 9h 17m     | 16:53                   | 37m        | 17:31 | 38m        | 18:10 | 38m        | 18:48    | 14h 44m                    | 10h 52m    |    |            |    | Sa, 8. Nov  |
| So, 9. Nov  |               | 18:47–19:55                | 1h 08m  | AN <sub>+</sub> bis M <sub>7</sub>  |      | 19:55      | 12:51      | 05:41                      | 38m        | 06:20 | 39m        | 06:59 | 38m        | 07:37      | 9h 14m     | 16:51                   | 38m        | 17:29 | 39m        | 18:08 | 38m        | 18:47    | 14h 47m                    | 10h 55m    |    |            |    | So, 9. Nov  |
| Mo, 10. Nov |               | 18:46–21:20                | 2h 34m  | AN <sub>+</sub> bis M <sub>7</sub>  |      | 21:20      | 13:28      | 05:43                      | 38m        | 06:22 | 39m        | 07:01 | 38m        | 07:39      | 9h 10m     | 16:50                   | 38m        | 17:28 | 39m        | 18:07 | 38m        | 18:46    | 14h 50m                    | 10h 58m    |    |            |    | Mo, 10. Nov |
| Di, 11. Nov |               | 18:45–22:44                | 3h 59m  | AN <sub>+</sub> bis M <sub>7</sub>  |      | 22:44      | 13:53      | 05:44                      | 38m        | 06:23 | 39m        | 07:02 | 38m        | 07:41      | 9h 07m     | 16:48                   | 38m        | 17:27 | 39m        | 18:06 | 38m        | 18:45    | 14h 54m                    | 11h 01m    |    |            |    | Di, 11. Nov |
| Mi, 12. Nov |               | 18:43–00:04*               | 5h 20m  | AN <sub>+</sub> bis M <sub>7</sub>  | ☾    | —:—        | 14:10      | 05:46                      | 38m        | 06:25 | 39m        | 07:04 | 38m        | 07:42      | 9h 04m     | 16:47                   | 38m        | 17:25 | 39m        | 18:05 | 38m        | 18:43    | 14h 57m                    | 11h 03m    |    |            |    | Mi, 12. Nov |
| Do, 13. Nov |               | 18:42–01:20*               | 6h 37m  | AN <sub>+</sub> bis M <sub>7</sub>  |      | 00:04      | 14:24      | 05:47                      | 38m        | 06:26 | 39m        | 07:05 | 38m        | 07:44      | 9h 01m     | 16:45                   | 38m        | 17:24 | 39m        | 18:03 | 38m        | 18:42    | 15h 00m                    | 11h 06m    |    |            |    | Do, 13. Nov |
| Fr, 14. Nov |               | 18:41–02:33*               | 7h 51m  | AN <sub>+</sub> bis M <sub>7</sub>  |      | 01:20      | 14:35      | 05:48                      | 38m        | 06:27 | 39m        | 07:07 | 38m        | 07:46      | 8h 58m     | 16:44                   | 38m        | 17:23 | 39m        | 18:02 | 38m        | 18:41    | 15h 03m                    | 11h 08m    |    |            |    | Fr, 14. Nov |
| Sa, 15. Nov |               | 18:40–03:44*               | 9h 03m  | AN <sub>+</sub> bis M <sub>7</sub>  |      | 02:33      | 14:46      | 05:50                      | 39m        | 06:29 | 39m        | 07:09 | 38m        | 07:47      | 8h 55m     | 16:43                   | 38m        | 17:22 | 39m        | 18:01 | 38m        | 18:40    | 15h 06m                    | 11h 11m    |    |            |    | Sa, 15. Nov |
| So, 16. Nov |               | 18:39–04:54*               | 10h 15m | AN <sub>+</sub> bis M <sub>7</sub>  |      | 03:44      | 14:56      | 05:51                      | 39m        | 06:30 | 39m        | 07:10 | 39m        | 07:49      | 8h 52m     | 16:41                   | 39m        | 17:20 | 39m        | 18:00 | 39m        | 18:39    | 15h 09m                    | 11h 13m    |    |            |    | So, 16. Nov |
| Mo, 17. Nov |               | 18:38–05:54*               | 11h 15m | AN <sub>+</sub> bis AN <sub>\</sub> |      | 04:54      | 15:08      | 05:53                      | 39m        | 06:32 | 39m        | 07:12 | 39m        | 07:51      | 8h 49m     | 16:40                   | 39m        | 17:19 | 39m        | 17:59 | 39m        | 18:38    | 15h 12m                    | 11h 15m    |    |            |    | Mo, 17. Nov |
| Di, 18. Nov |               | 18:37–05:55*               | 11h 18m | AN <sub>+</sub> bis AN <sub>\</sub> |      | 06:06      | 15:22      | 05:54                      | 39m        | 06:33 | 39m        | 07:13 | 39m        | 07:52      | 8h 46m     | 16:39                   | 39m        | 17:18 | 39m        | 17:58 | 39m        | 18:37    | 15h 15m                    | 11h 18m    |    |            |    | Di, 18. Nov |
| Mi, 19. Nov |               | 18:36–05:57*               | 11h 20m | AN <sub>+</sub> bis AN <sub>\</sub> |      | 07:19      | 15:39      | 05:55                      | 39m        | 06:35 | 39m        | 07:15 | 39m        | 07:54      | 8h 43m     | 16:38                   | 39m        | 17:17 | 39m        | 17:57 | 39m        | 18:36    | 15h 18m                    | 11h 20m    |    |            |    | Mi, 19. Nov |
| Do, 20. Nov |               | 18:35–05:58*               | 11h 22m | AN <sub>+</sub> bis AN <sub>\</sub> | ☾    | 08:31      | 16:03      | 05:57                      | 39m        | 06:36 | 40m        | 07:16 | 39m        | 07:56      | 8h 40m     | 16:37                   | 39m        | 17:16 | 40m        | 17:56 | 39m        | 18:35    | 15h 20m                    | 11h 22m    |    |            |    | Do, 20. Nov |
| Fr, 21. Nov |               | 18:35–05:59*               | 11h 24m | AN <sub>+</sub> bis AN <sub>\</sub> |      | 09:41      | 16:35      | 05:58                      | 39m        | 06:37 | 40m        | 07:18 | 39m        | 07:57      | 8h 38m     | 16:35                   | 39m        | 17:15 | 40m        | 17:55 | 39m        | 18:35    | 15h 23m                    | 11h 24m    |    |            |    | Fr, 21. Nov |
| Sa, 22. Nov |               | 18:34–06:01*               | 11h 26m | AN <sub>+</sub> bis AN <sub>\</sub> |      | 10:42      | 17:20      | 05:59                      | 39m        | 06:39 | 40m        | 07:19 | 39m        | 07:59      | 8h 35m     | 16:34                   | 39m        | 17:14 | 40m        | 17:54 | 39m        | 18:34    | 15h 26m                    | 11h 26m    |    |            |    | Sa, 22. Nov |
| So, 23. Nov |               | 18:33–06:02*               | 11h 28m | AN <sub>+</sub> bis AN <sub>\</sub> |      | 11:32      | 18:18      | 06:01                      | 39m        | 06:40 | 40m        | 07:20 | 40m        | 08:00      | 8h 32m     | 16:33                   | 39m        | 17:13 | 40m        | 17:54 | 39m        | 18:33    | 15h 28m                    | 11h 28m    |    |            |    | So, 23. Nov |
| Mo, 24. Nov |               | 19:26–06:03*               | 10h 37m | M <sub>\</sub> bis AN <sub>\</sub>  |      | 12:10      | 19:26      | 06:02                      | 39m        | 06:41 | 40m        | 07:22 | 40m        | 08:02      | 8h 30m     | 16:32                   | 40m        | 17:13 | 40m        | 17:53 | 39m        | 18:32    | 15h 31m                    | 11h 30m    |    |            |    | Mo, 24. Nov |
| Di, 25. Nov |               | 20:41–06:04*               | 9h 23m  | M <sub>\</sub> bis AN <sub>\</sub>  |      | 12:37      | 20:41      | 06:03                      | 39m        | 06:43 | 40m        | 07:23 | 40m        | 08:04      | 8h 27m     | 16:31                   | 40m        | 17:12 | 40m        | 17:52 | 39m        | 18:32    | 15h 33m                    | 11h 32m    |    |            |    | Di, 25. Nov |
| Mi, 26. Nov |               | 21:58–06:06*               | 8h 07m  | M <sub>\</sub> bis AN <sub>\</sub>  |      | 12:58      | 21:58      | 06:04                      | 39m        | 06:44 | 40m        | 07:25 | 40m        | 08:05      | 8h 25m     | 16:31                   | 40m        | 17:11 | 40m        | 17:52 | 39m        | 18:31    | 15h 36m                    | 11h 34m    |    |            |    | Mi, 26. Nov |
| Do, 27. Nov |               | 23:17–06:07*               | 6h 50m  | M <sub>\</sub> bis AN <sub>\</sub>  |      | 13:14      | 23:17      | 06:06                      | 39m        | 06:45 | 40m        | 07:26 | 40m        | 08:07      | 8h 23m     | 16:30                   | 40m        | 17:10 | 40m        | 17:51 | 39m        | 18:31    | 15h 38m                    | 11h 36m    |    |            |    | Do, 27. Nov |
| Fr, 28. Nov |               | 00:36*–06:08*              | 5h 32m  | M <sub>\</sub> bis AN <sub>\</sub>  | ☾    | 13:28      | —:—        | 06:07                      | 39m        | 06:47 | 40m        | 07:27 | 40m        | 08:08      | 8h 20m     | 16:29                   | 40m        | 17:10 | 40m        | 17:50 | 39m        | 18:30    | 15h 40m                    | 11h 37m    |    |            |    | Fr, 28. Nov |
| Sa, 29. Nov |               | 01:57*–06:09*              | 4h 12m  | M <sub>\</sub> bis AN <sub>\</sub>  |      | 13:40      | 00:36      | 06:08                      | 39m        | 06:48 | 40m        | 07:29 | 40m        | 08:10      | 8h 18m     | 16:28                   | 40m        | 17:09 | 40m        | 17:50 | 39m        | 18:30    | 15h 42m                    | 11h 39m    |    |            |    | Sa, 29. Nov |
| So, 30. Nov |               | 03:21*–06:10*              | 2h 49m  | M <sub>\</sub> bis AN <sub>\</sub>  |      | 13:52      | 01:57      | 06:09                      | 39m        | 06:49 | 40m        | 07:30 | 40m        | 08:11      | 8h 16m     | 16:28                   | 40m        | 17:08 | 40m        | 17:49 | 39m        | 18:29    | 15h 44m                    | 11h 41m    |    |            |    | So, 30. Nov |
| Mo, 1. Dez  |               | 04:51*–06:12*              | 1h 20m  | M <sub>\</sub> bis AN <sub>\</sub>  |      | 14:06      | 03:21      | 06:10                      | 39m        | 06:50 | 41m        | 07:31 | 41m        | 08:12      | 8h 14m     | 16:27                   | 41m        | 17:08 | 41m        | 17:49 | 39m        | 18:29    | 15h 46m                    | 11h 42m    |    |            |    | Mo, 1. Dez  |
| Di, 2. Dez  |               | —:~:~:~:~                  | –       | Mond stört                          |      | 14:24      | 04:51      | 06:12                      | 39m        | 06:51 | 41m        | 07:33 | 41m        | 08:14      | 8h 12m     | 16:26                   | 41m        | 17:07 | 41m        | 17:49 | 39m        | 18:29    | 15h 48m                    | 11h 44m    |    |            |    | Di, 2. Dez  |
| Mi, 3. Dez  |               | —:~:~:~:~                  | –       | Mond stört                          |      | 14:48      | 06:25      | 06:13                      | 39m        | 06:53 | 41m        | 07:34 | 41m        | 08:15      | 8h 10m     | 16:26                   | 41m        | 17:07 | 41m        | 17:48 | 39m        | 18:28    | 15h 50m                    | 11h 45m    |    |            |    | Mi, 3. Dez  |
| Do, 4. Dez  |               | —:~:~:~:~                  | –       | Mond stört                          |      | 15:23      | 08:00      | 06:14                      | 40m        | 06:54 | 41m        | 07:35 | 41m        | 08:16      | 8h 09m     | 16:25                   | 41m        | 17:07 | 41m        | 17:48 | 40m        | 18:28    | 15h 52m                    | 11h 46m    |    |            |    | Do, 4. Dez  |
| Fr, 5. Dez  |               | —:~:~:~:~                  | –       | Mond stört                          | ☾    | 16:16      | 09:27      | 06:15                      | 40m        | 06:55 | 41m        | 07:36 | 41m        | 08:18      | 8h 07m     | 16:25                   | 41m        | 17:06 | 41m        | 17:48 | 40m        | 18:28    | 15h 53m                    | 11h 47m    |    |            |    | Fr, 5. Dez  |
| Sa, 6. Dez  |               | —:~:~:~:~                  | –       | Mond stört                          |      | 17:28      | 10:35      | 06:16                      | 40m        | 06:56 | 41m        | 07:37 | 41m        | 08:19      | 8h 05m     | 16:25                   | 41m        | 17:06 | 41m        | 17:47 | 40m        | 18:28    | 15h 55m                    | 11h 49m    |    |            |    | Sa, 6. Dez  |
| So, 7. Dez  |               | 18:27–18:53                | 25m     | AN <sub>+</sub> bis M <sub>7</sub>  |      | 18:53      | 11:22      | 06:17                      | 40m        | 06:57 | 41m        | 07:38 | 41m        | 08:20      | 8h 04m     | 16:24                   | 41m        | 17:06 | 41m        | 17:47 | 40m        | 18:27    | 15h 56m                    | 11h 50m    |    |            |    | So, 7. Dez  |
| Mo, 8. Dez  |               | 18:27–20:21                | 1h 53m  | AN <sub>+</sub> bis M <sub>7</sub>  |      | 20:21      | 11:53      | 06:18                      | 40m        | 06:58 | 41m        | 07:39 | 41m        | 08:21      | 8h 02m     | 16:24                   | 41m        | 17:06 | 41m        | 17:47 | 40m        | 18:27    | 15h 58m                    | 11h 51m    |    |            |    | Mo, 8. Dez  |
| Di, 9. Dez  |               | 18:27–21:46                | 3h 18m  | AN <sub>+</sub> bis M <sub>7</sub>  |      | 21:46      | 12:14      | 06:19                      | 40m        | 06:59 | 41m        | 07:40 | 41m        | 08:22      |            |                         |            |       |            |       |            |          |                            |            |    |            |    |             |



| 1           | 2        | 3                          | 4          | 5                                   | 6    | 7          | 8          | 9                          | 10         | 11    | 12         | 13    | 14         | 15         | 16         | 17                      | 18         | 19    | 20         | 21    | 22         | 23       | 24                         | 25         | 26 | 27         | 28 | 29          |
|-------------|----------|----------------------------|------------|-------------------------------------|------|------------|------------|----------------------------|------------|-------|------------|-------|------------|------------|------------|-------------------------|------------|-------|------------|-------|------------|----------|----------------------------|------------|----|------------|----|-------------|
| 2025/26     | Zeitzone | Astr. dunkel und kein Mond |            |                                     | Mond |            |            | Beginn der Morgendämmerung |            |       |            |       | Sonne      |            |            | Ende der Abenddämmerung |            |       |            |       | Nacht      | Astr. N. | Naut. dunkel und kein Mond |            |    | 2025/26    |    |             |
|             |          |                            | $\Delta t$ |                                     | Ph.  | $\nearrow$ | $\searrow$ | Astr.                      | $\Delta t$ | Naut. | $\Delta t$ | Bürg. | $\Delta t$ | $\nearrow$ | $\Delta t$ | $\searrow$              | $\Delta t$ | Bürg. | $\Delta t$ | Naut. | $\Delta t$ | Astr.    | $\Delta t$                 | $\Delta t$ |    | $\Delta t$ |    |             |
| Mi, 17. Dez |          | 18:29–06:26*               | 11h 56m    | AN <sub>+</sub> bis AN <sub>-</sub> |      | 06:20      | 14:06      | 06:25                      | 40m        | 07:05 | 41m        | 07:47 | 42m        | 08:29      | 7h 54m     | 16:24                   | 42m        | 17:06 | 41m        | 17:48 | 40m        | 18:29    | 16h 05m                    | 11h 56m    |    |            |    | Mi, 17. Dez |
| Do, 18. Dez |          | 18:29–06:26*               | 11h 57m    | AN <sub>+</sub> bis AN <sub>-</sub> |      | 07:31      | 14:36      | 06:26                      | 40m        | 07:06 | 41m        | 07:48 | 42m        | 08:30      | 7h 54m     | 16:25                   | 42m        | 17:07 | 41m        | 17:49 | 40m        | 18:29    | 16h 06m                    | 11h 57m    |    |            |    | Do, 18. Dez |
| Fr, 19. Dez |          | 18:30–06:27*               | 11h 57m    | AN <sub>+</sub> bis AN <sub>-</sub> |      | 08:35      | 15:17      | 06:26                      | 40m        | 07:07 | 41m        | 07:49 | 42m        | 08:31      | 7h 54m     | 16:25                   | 42m        | 17:07 | 41m        | 17:49 | 40m        | 18:30    | 16h 06m                    | 11h 57m    |    |            |    | Fr, 19. Dez |
| Sa, 20. Dez |          | 18:30–06:27*               | 11h 57m    | AN <sub>+</sub> bis AN <sub>-</sub> | ●    | 09:29      | 16:11      | 06:27                      | 40m        | 07:07 | 41m        | 07:49 | 42m        | 08:31      | 7h 53m     | 16:25                   | 42m        | 17:08 | 41m        | 17:50 | 40m        | 18:30    | 16h 06m                    | 11h 57m    |    |            |    | Sa, 20. Dez |
| So, 21. Dez |          | 18:30–06:28*               | 11h 57m    | AN <sub>+</sub> bis AN <sub>-</sub> |      | 10:11      | 17:17      | 06:27                      | 40m        | 07:08 | 41m        | 07:50 | 42m        | 08:32      | 7h 53m     | 16:26                   | 42m        | 17:08 | 41m        | 17:50 | 40m        | 18:30    | 16h 06m                    | 11h 57m    |    |            |    | So, 21. Dez |
| Mo, 22. Dez |          | 18:31–06:28*               | 11h 57m    | M <sub>\</sub> bis AN <sub>-</sub>  |      | 10:41      | 18:31      | 06:28                      | 40m        | 07:08 | 41m        | 07:50 | 42m        | 08:32      | 7h 53m     | 16:26                   | 42m        | 17:09 | 41m        | 17:51 | 40m        | 18:31    | 16h 06m                    | 11h 57m    |    |            |    | Mo, 22. Dez |
| Di, 23. Dez |          | 19:48–06:29*               | 10h 40m    | M <sub>\</sub> bis AN <sub>-</sub>  |      | 11:03      | 19:48      | 06:28                      | 40m        | 07:09 | 41m        | 07:51 | 42m        | 08:33      | 7h 54m     | 16:27                   | 42m        | 17:09 | 41m        | 17:51 | 40m        | 18:32    | 16h 06m                    | 11h 57m    |    |            |    | Di, 23. Dez |
| Mi, 24. Dez |          | 21:06–06:29*               | 9h 23m     | M <sub>\</sub> bis AN <sub>-</sub>  |      | 11:20      | 21:06      | 06:29                      | 40m        | 07:09 | 41m        | 07:51 | 42m        | 08:33      | 7h 54m     | 16:28                   | 42m        | 17:10 | 41m        | 17:52 | 40m        | 18:32    | 16h 05m                    | 11h 56m    |    |            |    | Mi, 24. Dez |
| Do, 25. Dez |          | 22:24–06:29*               | 8h 05m     | M <sub>\</sub> bis AN <sub>-</sub>  |      | 11:34      | 22:24      | 06:29                      | 40m        | 07:09 | 41m        | 07:51 | 42m        | 08:34      | 7h 54m     | 16:28                   | 42m        | 17:10 | 41m        | 17:52 | 40m        | 18:33    | 16h 05m                    | 11h 56m    |    |            |    | Do, 25. Dez |
| Fr, 26. Dez |          | 23:42–06:30*               | 6h 48m     | M <sub>\</sub> bis AN <sub>-</sub>  |      | 11:46      | 23:42      | 06:29                      | 40m        | 07:10 | 41m        | 07:52 | 42m        | 08:34      | 7h 55m     | 16:29                   | 42m        | 17:11 | 41m        | 17:53 | 40m        | 18:33    | 16h 05m                    | 11h 56m    |    |            |    | Fr, 26. Dez |
| Sa, 27. Dez |          | 01:02*–06:30*              | 5h 28m     | M <sub>\</sub> bis AN <sub>-</sub>  | ◐    | 11:58      | —:—        | 06:30                      | 40m        | 07:10 | 41m        | 07:52 | 42m        | 08:34      | 7h 55m     | 16:30                   | 42m        | 17:12 | 41m        | 17:54 | 40m        | 18:34    | 16h 04m                    | 11h 55m    |    |            |    | Sa, 27. Dez |
| So, 28. Dez |          | 02:25*–06:30*              | 4h 04m     | M <sub>\</sub> bis AN <sub>-</sub>  |      | 12:11      | 01:02      | 06:30                      | 40m        | 07:10 | 41m        | 07:52 | 42m        | 08:34      | 7h 56m     | 16:31                   | 42m        | 17:13 | 41m        | 17:55 | 40m        | 18:35    | 16h 03m                    | 11h 55m    |    |            |    | So, 28. Dez |
| Mo, 29. Dez |          | 03:54*–06:30*              | 2h 36m     | M <sub>\</sub> bis AN <sub>-</sub>  |      | 12:26      | 02:25      | 06:30                      | 40m        | 07:11 | 41m        | 07:52 | 42m        | 08:34      | 7h 57m     | 16:31                   | 42m        | 17:14 | 41m        | 17:55 | 40m        | 18:36    | 16h 02m                    | 11h 54m    |    |            |    | Mo, 29. Dez |
| Di, 30. Dez |          | 05:26*–06:30*              | 1h 04m     | M <sub>\</sub> bis AN <sub>-</sub>  |      | 12:46      | 03:54      | 06:30                      | 40m        | 07:11 | 41m        | 07:52 | 42m        | 08:34      | 7h 58m     | 16:32                   | 42m        | 17:14 | 41m        | 17:56 | 40m        | 18:36    | 16h 01m                    | 11h 53m    |    |            |    | Di, 30. Dez |
| Mi, 31. Dez |          | —:—:—:—                    | —          | Mond stört                          |      | 13:14      | 05:26      | 06:30                      | 40m        | 07:11 | 41m        | 07:52 | 41m        | 08:34      | 7h 59m     | 16:33                   | 41m        | 17:15 | 41m        | 17:57 | 40m        | 18:37    | 16h 00m                    | 11h 53m    |    |            |    | Mi, 31. Dez |
| Do, 1. Jan  |          | —:—:—:—                    | —          | Mond stört                          |      | 13:57      | 06:55      | 06:31                      | 40m        | 07:11 | 41m        | 07:52 | 41m        | 08:34      | 8h 00m     | 16:34                   | 41m        | 17:16 | 41m        | 17:58 | 40m        | 18:38    | 15h 59m                    | 11h 52m    |    |            |    | Do, 1. Jan  |
| Fr, 2. Jan  |          | —:—:~:~:~                  | —          | Mond stört                          |      | 14:58      | 08:13      | 06:31                      | 40m        | 07:11 | 41m        | 07:52 | 41m        | 08:34      | 8h 01m     | 16:35                   | 41m        | 17:17 | 41m        | 17:59 | 40m        | 18:39    | 15h 58m                    | 11h 51m    |    |            |    | Fr, 2. Jan  |
| Sa, 3. Jan  |          | —:~:~:~:~                  | —          | Mond stört                          | ○    | 16:18      | 09:10      | 06:31                      | 40m        | 07:11 | 41m        | 07:52 | 41m        | 08:34      | 8h 02m     | 16:37                   | 41m        | 17:18 | 41m        | 18:00 | 40m        | 18:40    | 15h 57m                    | 11h 50m    |    |            |    | Sa, 3. Jan  |
| So, 4. Jan  |          | —:~:~:~:~                  | —          | Mond stört                          |      | 17:48      | 09:49      | 06:31                      | 40m        | 07:11 | 41m        | 07:52 | 41m        | 08:34      | 8h 03m     | 16:38                   | 41m        | 17:19 | 41m        | 18:01 | 40m        | 18:41    | 15h 55m                    | 11h 49m    |    |            |    | So, 4. Jan  |
| Mo, 5. Jan  |          | 18:42–19:17                | 34m        | AN <sub>+</sub> bis M <sub>7</sub>  |      | 19:17      | 10:15      | 06:30                      | 40m        | 07:11 | 41m        | 07:52 | 41m        | 08:33      | 8h 05m     | 16:39                   | 41m        | 17:21 | 41m        | 18:02 | 40m        | 18:42    | 15h 54m                    | 11h 48m    |    |            |    | Mo, 5. Jan  |
| Di, 6. Jan  |          | 18:43–20:42                | 1h 58m     | AN <sub>+</sub> bis M <sub>7</sub>  |      | 20:42      | 10:33      | 06:30                      | 40m        | 07:10 | 41m        | 07:52 | 41m        | 08:33      | 8h 07m     | 16:40                   | 41m        | 17:22 | 41m        | 18:03 | 40m        | 18:43    | 15h 52m                    | 11h 47m    |    |            |    | Di, 6. Jan  |
| Mi, 7. Jan  |          | 18:44–22:01                | 3h 17m     | AN <sub>+</sub> bis M <sub>7</sub>  |      | 22:01      | 10:47      | 06:30                      | 40m        | 07:10 | 41m        | 07:51 | 41m        | 08:33      | 8h 08m     | 16:41                   | 41m        | 17:23 | 41m        | 18:04 | 40m        | 18:44    | 15h 50m                    | 11h 45m    |    |            |    | Mi, 7. Jan  |
| Do, 8. Jan  |          | 18:45–23:17                | 4h 31m     | AN <sub>+</sub> bis M <sub>7</sub>  |      | 23:17      | 10:59      | 06:30                      | 39m        | 07:10 | 41m        | 07:51 | 41m        | 08:32      | 8h 10m     | 16:43                   | 41m        | 17:24 | 41m        | 18:05 | 40m        | 18:45    | 15h 49m                    | 11h 44m    |    |            |    | Do, 8. Jan  |
| Fr, 9. Jan  |          | 18:46–00:30*               | 5h 43m     | AN <sub>+</sub> bis M <sub>7</sub>  |      | —:—        | 11:10      | 06:30                      | 39m        | 07:10 | 41m        | 07:51 | 41m        | 08:32      | 8h 12m     | 16:44                   | 41m        | 17:25 | 41m        | 18:06 | 39m        | 18:46    | 15h 47m                    | 11h 43m    |    |            |    | Fr, 9. Jan  |
| Sa, 10. Jan |          | 18:47–01:42*               | 6h 54m     | AN <sub>+</sub> bis M <sub>7</sub>  | ◑    | 00:30      | 11:21      | 06:29                      | 39m        | 07:09 | 41m        | 07:50 | 41m        | 08:31      | 8h 14m     | 16:45                   | 41m        | 17:27 | 41m        | 18:08 | 39m        | 18:47    | 15h 45m                    | 11h 41m    |    |            |    | Sa, 10. Jan |
| So, 11. Jan |          | 18:49–02:55*               | 8h 06m     | AN <sub>+</sub> bis M <sub>7</sub>  |      | 01:42      | 11:34      | 06:29                      | 39m        | 07:09 | 40m        | 07:50 | 40m        | 08:31      | 8h 16m     | 16:47                   | 40m        | 17:28 | 40m        | 18:09 | 39m        | 18:49    | 15h 43m                    | 11h 39m    |    |            |    | So, 11. Jan |
| Mo, 12. Jan |          | 18:50–04:08*               | 9h 17m     | AN <sub>+</sub> bis M <sub>7</sub>  |      | 02:55      | 11:49      | 06:29                      | 39m        | 07:08 | 40m        | 07:49 | 40m        | 08:30      | 8h 18m     | 16:48                   | 40m        | 17:29 | 40m        | 18:10 | 39m        | 18:50    | 15h 41m                    | 11h 38m    |    |            |    | Mo, 12. Jan |
| Di, 13. Jan |          | 18:51–05:19*               | 10h 28m    | AN <sub>+</sub> bis M <sub>7</sub>  |      | 04:08      | 12:08      | 06:28                      | 39m        | 07:08 | 40m        | 07:49 | 40m        | 08:29      | 8h 20m     | 16:50                   | 40m        | 17:30 | 40m        | 18:11 | 39m        | 18:51    | 15h 38m                    | 11h 36m    |    |            |    | Di, 13. Jan |
| Mi, 14. Jan |          | 18:52–06:26*               | 11h 34m    | AN <sub>+</sub> bis M <sub>7</sub>  |      | 05:19      | 12:35      | 06:28                      | 39m        | 07:07 | 40m        | 07:48 | 40m        | 08:29      | 8h 22m     | 16:51                   | 40m        | 17:32 | 40m        | 18:13 | 39m        | 18:52    | 15h 36m                    | 11h 34m    |    |            |    | Mi, 14. Jan |
| Do, 15. Jan |          | 18:53–06:27*               | 11h 33m    | AN <sub>+</sub> bis AN <sub>-</sub> |      | 06:26      | 13:12      | 06:27                      | 39m        | 07:07 | 40m        | 07:47 | 40m        | 08:28      | 8h 25m     | 16:53                   | 40m        | 17:33 | 40m        | 18:14 | 39m        | 18:53    | 15h 34m                    | 11h 33m    |    |            |    | Do, 15. Jan |
| Fr, 16. Jan |          | 18:55–06:26*               | 11h 31m    | AN <sub>+</sub> bis AN <sub>-</sub> |      | 07:24      | 14:02      | 06:27                      | 39m        | 07:06 | 40m        | 07:47 | 40m        | 08:27      | 8h 27m     | 16:54                   | 40m        | 17:35 | 40m        | 18:15 | 39m        | 18:55    | 15h 31m                    | 11h 31m    |    |            |    | Fr, 16. Jan |
| Sa, 17. Jan |          | 18:56–06:25*               | 11h 29m    | AN <sub>+</sub> bis AN <sub>-</sub> |      | 08:10      | 15:05      | 06:26                      | 39m        | 07:05 | 40m        | 07:46 | 40m        | 08:26      | 8h 29m     | 16:56                   | 40m        | 17:36 | 40m        | 18:17 | 39m        | 18:56    | 15h 29m                    | 11h 29m    |    |            |    | Sa, 17. Jan |
| So, 18. Jan |          | 18:57–06:25*               | 11h 27m    | AN <sub>+</sub> bis AN <sub>-</sub> | ●    | 08:44      | 16:18      | 06:25                      | 39m        | 07:05 | 40m        | 07:45 | 40m        | 08:25      | 8h 32m     | 16:58                   | 40m        | 17:38 | 40m        | 18:18 | 39m        | 18:57    | 15h 26m                    | 11h 27m    |    |            |    | So, 18. Jan |
| Mo, 19. Jan |          | 18:59–06:24*               | 11h 25m    | AN <sub>+</sub> bis AN <sub>-</sub> |      | 09:08      | 17:35      | 06:25                      | 39m        | 07:04 | 40m        | 07:44 | 39m        | 08:24      | 8h 35m     | 16:59                   | 39m        | 17:39 | 40m        | 18:19 | 39m        | 18:59    | 15h 23m                    | 11h 25m    |    |            |    | Mo, 19. Jan |
| Di, 20. Jan |          | 19:00–06:23*               | 11h 23m    | AN <sub>+</sub> bis AN <sub>-</sub> |      | 09:27      | 18:54      | 06:24                      | 39m        | 07:03 | 40m        | 07:43 | 39m        | 08:23      | 8h 37m     | 17:01                   | 39m        | 17:41 | 40m        | 18:21 | 39m        | 19:00    | 15h 21m                    | 11h 23m    |    |            |    | Di, 20. Jan |
| Mi, 21. Jan |          | 20:13–06:22*               | 10h 09m    | M <sub>\</sub> bis AN <sub>-</sub>  |      | 09:42      | 20:13      | 06:23                      | 39m        | 07:02 | 40m        | 07:42 | 39m        | 08:22      | 8h 40m     | 17:02                   | 39m        | 17:42 | 40m        | 18:22 | 39m        | 19:01    | 15h 18m                    | 11h 20m    |    |            |    | Mi, 21. Jan |
| Do, 22. Jan |          | 21:31–06:21*               | 8h 50m     | M <sub>\</sub> bis AN <sub>-</sub>  |      | 09:54      | 21:31      | 06:22                      | 39m        | 07:02 | 39m        | 07:41 | 39m        | 08:21      | 8h 43m     | 17:04                   | 39m        | 17:44 | 39m        | 18:24 | 39m        | 19:03    | 15h 15m                    | 11h 18m    |    |            |    | Do, 22. Jan |
| Fr, 23. Jan |          | 22:51–06:21*               | 7h 29m     | M <sub>\</sub> bis AN <sub>-</sub>  |      | 10:06      | 22:51      | 06:21                      | 39m        | 07:01 | 39m        | 07:40 | 39m        | 08:20      | 8h 46m     | 17:06                   | 39m        | 17:45 | 39m        | 18:25 | 39m        | 19:04    | 15h 12m                    | 11h 16m    |    |            |    | Fr, 23. Jan |
| Sa, 24. Jan |          | 00:12*–06:20*              | 6h 07m     | M <sub>\</sub> bis AN <sub>-</sub>  |      | 10:18      | —:—        | 06:21                      | 39m        | 07:00 | 39m        | 07:39 | 39m        | 08:19      | 8h 48m     | 17:08                   | 39m        | 17:47 | 39m        | 18:26 | 39m        | 19:06    | 15h 09m                    | 11h 13m    |    |            |    | Sa, 24. Jan |
| So, 25. Jan |          | 01:37*–06:19*              | 4h 41m     | M <sub>\</sub> bis AN <sub>-</sub>  |      | 10:32      | 00:12      | 06:20                      | 39m        | 06:59 | 39m        | 07:38 | 39m        | 08:17      | 8h 51m     | 17:09                   | 39m        | 17:48 | 39m        | 18:28 | 39m        | 19:07    | 15h 06m                    | 11h 11m    |    |            |    | So, 25. Jan |
| Mo, 26. Jan |          | 03:05*–06:18*              | 3h 12m     | M <sub>\</sub> bis AN <sub>-</sub>  | ◒    | 10:49      | 01:37      | 06:19                      | 39m        | 06:58 | 39m        | 07:37 | 38m        | 08:16      | 8h 54m     | 17:11                   | 38m        | 17:50 | 39m        | 18:29 | 39m        | 19:09    | 15h 03m                    | 11h 09m    |    |            |    | Mo, 26. Jan |
| Di, 27. Jan |          | 04:33*–06:16*              | 1h 43m     | M <sub>\</sub> bis AN <sub>-</sub>  |      | 11:13      | 03:05      | 06:18                      | 38m        | 06:56 | 39m        | 07:36 | 38m        | 08:15      | 8h 57m     | 17:13                   | 38m        | 17:51 | 39m        | 18:31 | 38m        | 19:10    | 15h 00m                    | 11h 06m    |    |            |    | Di, 27. Jan |
| Mi, 28. Jan |          | 05                         |            |                                     |      |            |            |                            |            |       |            |       |            |            |            |                         |            |       |            |       |            |          |                            |            |    |            |    |             |