



# Astrodienst Ephemeris Tables for the year 2239

tropical geocentric zodiac

contains Sun, Moon, Mercury, Venus, Mars, Jupiter, Saturn, Uranus, Neptune, Pluto, True Node, Moon's Node, Lilith, Chiron

Programming  
Dieter Koch and Alois Treindl  
based on Swiss Ephemeris  
Code D5EPX

ASTRODIENST EPHEMERIS for the year 2239  
geocentric

JANUARY 2239

00:00 UT

| Day  | Sid.t   | ☉         | ☽        | ♊        | ♋        | ♌        | ♍     | ♎     | ♏        | ♐      | ♑        | ♒      | ♓       | ♈        | ♉      | Day  |
|------|---------|-----------|----------|----------|----------|----------|-------|-------|----------|--------|----------|--------|---------|----------|--------|------|
| T 1  | 6 40 21 | 9°35'04.4 | 14°11' 5 | 26°38' 6 | 12°28'13 | 20°11'17 | 5°R 2 | 4°R24 | 26°27'57 | 21°R35 | 23°11' 1 | 2°R36  | 2°23'35 | 27°27'58 | 15°R18 | T 1  |
| W 2  | 6 44 17 | 10°51'52  | 26° 3    | 27°36    | 13°27    | 21° 0    | 4°54  | 4°519 | 27° 1    | 21°533 | 23° 3    | 2°28   | 2°32    | 28° 5    | 15°514 | W 2  |
| T 3  | 6 48 14 | 11°53'02  | 7°27'55  | 29° 4    | 14°41    | 21°44    | 4°46  | 4°14  | 27° 5    | 21°31  | 23° 5    | 2°18   | 2°29    | 28°12    | 15°10  | T 3  |
| F 4  | 6 52 10 | 12°54'11  | 19°47    | 0°31     | 15°55    | 22°27    | 4°38  | 4°10  | 27° 8    | 21°30  | 23° 7    | 2° 6   | 2°26    | 28°18    | 15° 6  | F 4  |
| S 5  | 6 56 7  | 13°55'21  | 1°38     | 1°55     | 17° 9    | 23°10    | 4°30  | 4° 5  | 27°12    | 21°28  | 23° 8    | 1°51   | 2°23    | 28°25    | 15° 2  | S 5  |
| S 6  | 7 0 3   | 14°56'31  | 13°32    | 3°18     | 18°23    | 23°54    | 4°22  | 4° 0  | 27°15    | 21°26  | 23°10    | 1°36   | 2°20    | 28°32    | 14°58  | S 6  |
| M 7  | 7 4 0   | 15°57'41  | 25°29    | 4°37     | 19°36    | 24°37    | 4°14  | 3°55  | 27°19    | 21°24  | 23°12    | 1°22   | 2°16    | 28°38    | 14°54  | M 7  |
| T 8  | 7 7 56  | 16°58'52  | 7°31'31  | 5°53     | 20°50    | 25°20    | 4° 6  | 3°50  | 27°22    | 21°23  | 23°13    | 1°10   | 2°13    | 28°45    | 14°50  | T 8  |
| W 9  | 7 11 53 | 18° 0'02  | 19°38    | 7° 6     | 22° 3    | 26° 4    | 3°58  | 3°46  | 27°26    | 21°21  | 23°15    | 1° 0   | 2°10    | 28°52    | 14°46  | W 9  |
| T 10 | 7 15 50 | 19° 1'11  | 1°52     | 8°14     | 23°17    | 26°47    | 3°51  | 3°41  | 27°29    | 21°19  | 23°17    | 0°53   | 2° 7    | 28°59    | 14°41  | T 10 |
| F 11 | 7 19 46 | 20° 2'21  | 14°17    | 9°16     | 24°31    | 27°31    | 3°43  | 3°36  | 27°33    | 21°18  | 23°18    | 0°50   | 2° 4    | 29° 5    | 14°37  | F 11 |
| S 12 | 7 23 43 | 21° 3'30  | 26°55    | 10°13    | 25°44    | 28°14    | 3°36  | 3°32  | 27°36    | 21°16  | 23°20    | 0°D49  | 2° 0    | 29°12    | 14°33  | S 12 |
| S 13 | 7 27 39 | 22° 4'39  | 9°49     | 11° 3    | 26°57    | 28°57    | 3°28  | 3°27  | 27°39    | 21°14  | 23°21    | 0°49   | 1°57    | 29°19    | 14°29  | S 13 |
| M14  | 7 31 36 | 23° 5'47  | 23° 3    | 11°45    | 28°11    | 29°41    | 3°21  | 3°23  | 27°43    | 21°13  | 23°23    | 0°R49  | 1°54    | 29°25    | 14°25  | M14  |
| T 15 | 7 35 32 | 24° 6'55  | 6°41     | 12°19    | 29°24    | 0°49     | 3°14  | 3°18  | 27°46    | 21°11  | 23°24    | 0°48   | 1°51    | 29°32    | 14°21  | T 15 |
| W16  | 7 39 29 | 25° 8'02  | 20°45    | 12°43    | 0°37     | 1° 7     | 3° 7  | 3°14  | 27°50    | 21° 9  | 23°26    | 0°46   | 1°48    | 29°39    | 14°17  | W16  |
| T 17 | 7 43 25 | 26° 9'09  | 5°11     | 12°56    | 1°51     | 1°51     | 3° 0  | 3° 9  | 27°53    | 21° 8  | 23°27    | 0°40   | 1°45    | 29°46    | 14°13  | T 17 |
| F 18 | 7 47 22 | 27°10'15  | 20° 4    | 12°R59   | 3° 4     | 2°34     | 2°53  | 3° 5  | 27°56    | 21° 6  | 23°28    | 0°33   | 1°41    | 29°52    | 14° 9  | F 18 |
| S 19 | 7 51 19 | 28°11'21  | 5°10     | 12°50    | 4°17     | 3°17     | 2°46  | 3° 1  | 28° 0    | 21° 4  | 23°30    | 0°24   | 1°38    | 29°59    | 14° 5  | S 19 |
| S 20 | 7 55 15 | 29°12'26  | 20°23    | 12°29    | 5°30     | 4° 1     | 2°40  | 2°57  | 28° 3    | 21° 2  | 23°31    | 0°14   | 1°35    | 0°38     | 14° 1  | S 20 |
| M21  | 7 59 12 | 0°13'30   | 5°21     | 11°57    | 6°43     | 4°44     | 2°33  | 2°52  | 28° 6    | 21° 1  | 23°32    | 0° 5   | 1°32    | 0°13     | 13°57  | M21  |
| T 22 | 8 3 8   | 1°14'34   | 20°24    | 11°13    | 7°56     | 5°27     | 2°27  | 2°48  | 28° 9    | 20°59  | 23°34    | 29°15  | 1°29    | 0°19     | 13°54  | T 22 |
| W23  | 8 7 5   | 2°15'38   | 4°14     | 10°20    | 9° 9     | 6°10     | 2°21  | 2°44  | 28°12    | 20°57  | 23°35    | 29°52  | 1°26    | 0°26     | 13°50  | W23  |
| T 24 | 8 11 1  | 3°16'41   | 18°56    | 9°17     | 10°21    | 6°53     | 2°15  | 2°40  | 28°16    | 20°56  | 23°36    | 29°49  | 1°22    | 0°33     | 13°46  | T 24 |
| F 25 | 8 14 58 | 4°17'43   | 2°30     | 8° 8     | 11°34    | 7°37     | 2° 9  | 2°37  | 28°19    | 20°54  | 23°37    | 29°D49 | 1°19    | 0°39     | 13°42  | F 25 |
| S 26 | 8 18 54 | 5°18'46   | 15°35    | 6°53     | 12°47    | 8°20     | 2° 3  | 2°33  | 28°22    | 20°53  | 23°38    | 29°50  | 1°16    | 0°46     | 13°39  | S 26 |
| S 27 | 8 22 51 | 6°19'48   | 28°17    | 5°36     | 13°59    | 9° 3     | 1°58  | 2°29  | 28°25    | 20°51  | 23°39    | 29°51  | 1°13    | 0°53     | 13°35  | S 27 |
| M28  | 8 26 48 | 7°20'49   | 10°18    | 4°19     | 15°12    | 9°46     | 1°52  | 2°26  | 28°28    | 20°49  | 23°40    | 29°R51 | 1°10    | 1° 0     | 13°31  | M28  |
| T 29 | 8 30 44 | 8°21'50   | 22°45    | 3° 4     | 16°24    | 10°29    | 1°47  | 2°22  | 28°31    | 20°48  | 23°41    | 29°50  | 1° 6    | 1° 6     | 13°28  | T 29 |
| W30  | 8 34 41 | 9°22'51   | 4°42     | 1°54     | 17°36    | 11°12    | 1°42  | 2°19  | 28°34    | 20°46  | 23°42    | 29°46  | 1° 3    | 1°13     | 13°24  | W30  |
| T 31 | 8 38 37 | 10°23'51  | 16°34    | 0°49     | 18°49    | 11°55    | 1°57  | 2°15  | 28°37    | 20°44  | 23°43    | 29°140 | 1° 0    | 1°20     | 13°21  | T 31 |

| Day  | ☉     | ☾     |      | ♊     |      | ♋     |      | ♌    |      | ♍     |      | ♎     |      | ♏     |      | ♐     |      | ♑    | ♒     | ♓    | ♈    |       |       |
|------|-------|-------|------|-------|------|-------|------|------|------|-------|------|-------|------|-------|------|-------|------|------|-------|------|------|-------|-------|
|      | decl  | decl  | lat  | decl  | lat  | decl  | lat  | decl | lat  | decl  | lat  | decl  | lat  | decl  | lat  | decl  | lat  | decl | lat   | decl | lat  | lat   |       |
| T 1  | 23s 2 | 12s52 | 3n20 | 22s56 | 2s 4 | 18s52 | 1s50 | 4s27 | 0s39 | 23n 7 | 0s12 | 22n21 | 0s59 | 23s31 | 0s 9 | 20n59 | 0s43 | 4s 4 | 14n53 | 1s 2 | 1s 2 | 18s16 | 15n18 |
| W 2  | 22 58 | 15 19 | 4 2  | 22 35 | 2 0  | 18 30 | 1 49 | 4 9  | 0 38 | 23 7  | 0 12 | 22 21 | 0 59 | 23 31 | 0 9  | 20 59 | 0 43 | 4 4  | 14 53 | 0 59 | 1 0  | 18 16 | 15 18 |
| T 3  | 22 52 | 17 6  | 4 34 | 22 12 | 1 56 | 18 9  | 1 49 | 3 50 | 0 37 | 23 8  | 0 11 | 22 21 | 0 59 | 23 31 | 0 9  | 20 59 | 0 43 | 4 4  | 14 54 | 0 55 | 0 59 | 18 16 | 15 19 |
| F 4  | 22 47 | 18 9  | 4 53 | 21 49 | 1 51 | 17 47 | 1 49 | 3 32 | 0 36 | 23 8  | 0 11 | 22 22 | 0 59 | 23 31 | 0 9  | 20 59 | 0 43 | 4 5  | 14 54 | 0 50 | 0 58 | 18 16 | 15 19 |
| S 5  | 22 41 | 18 24 | 5 0  | 21 24 | 1 45 | 17 24 | 1 49 | 3 14 | 0 34 | 23 9  | 0 11 | 22 22 | 0 59 | 23 31 | 0 9  | 21 0  | 0 43 | 4 5  | 14 54 | 0 44 | 0 57 | 18 16 | 15 19 |
| S 6  | 22 34 | 17 51 | 4 53 | 20 59 | 1 38 | 17 1  | 1 48 | 2 56 | 0 33 | 23 9  | 0 11 | 22 22 | 0 58 | 23 31 | 0 9  | 21 0  | 0 43 | 4 5  | 14 55 | 0 38 | 0 55 | 18 16 | 15 20 |
| M 7  | 22 27 | 16 31 | 4 34 | 20 32 | 1 30 | 16 37 | 1 47 | 2 37 | 0 32 | 23 9  | 0 11 | 22 23 | 0 58 | 23 31 | 0 9  | 21 0  | 0 43 | 4 5  | 14 55 | 0 33 | 0 54 | 18 16 | 15 20 |
| T 8  | 22 20 | 14 27 | 4 3  | 20 5  | 1 22 | 16 13 | 1 47 | 2 19 | 0 31 | 23 10 | 0 11 | 22 23 | 0 58 | 23 31 | 0 9  | 21 0  | 0 43 | 4 5  | 14 55 | 0 28 | 0 53 | 18 16 | 15 20 |
| W 9  | 22 12 | 11 45 | 3 20 | 19 38 | 1 12 | 15 49 | 1 46 | 2 1  | 0 29 | 23 10 | 0 10 | 22 23 | 0 58 | 23 32 | 0 9  | 21 1  | 0 43 | 4 5  | 14 56 | 0 24 | 0 52 | 18 16 | 15 21 |
| T 10 | 22 3  | 8 30  | 2 27 | 19 10 | 1 1  | 15 24 | 1 45 | 1 42 | 0 28 | 23 11 | 0 10 | 22 23 | 0 58 | 23 32 | 0 9  | 21 1  | 0 43 | 4 5  | 14 56 | 0 21 | 0 50 | 18 16 | 15 21 |
| F 11 | 21 55 | 4 51  | 1 27 | 18 43 | 0 50 | 14 58 | 1 44 | 1 24 | 0 27 | 23 11 | 0 10 | 22 24 | 0 58 | 23 32 | 0 9  | 21 1  | 0 43 | 4 5  | 14 56 | 0 20 | 0 49 | 18 16 | 15 22 |
| S 12 | 21 46 | 0 55  | 0 21 | 18 15 | 0 37 | 14 33 | 1 43 | 1 6  | 0 26 | 23 11 | 0 10 | 22 24 | 0 58 | 23 32 | 0 9  | 21 1  | 0 43 | 4 5  | 14 57 | 0 19 | 0 48 | 18 16 | 15 22 |
| S 13 | 21 36 | 3n 9  | 0s48 | 17 48 | 0 23 | 14 7  | 1 42 | 0 48 | 0 25 | 23 12 | 0 10 | 22 24 | 0 58 | 23 32 | 0 9  | 21 2  | 0 43 | 4 5  | 14 57 | 0 19 | 0 47 | 18 16 | 15 22 |
| M14  | 21 26 | 7 10  | 1 55 | 17 23 | 0 9  | 13 40 | 1 41 | 0 29 | 0 24 | 23 12 | 0 10 | 22 24 | 0 57 | 23 32 | 0 9  | 21 2  | 0 43 | 4 5  | 14 58 | 0 19 | 0 45 | 18 16 | 15 23 |
| T 15 | 21 15 | 10 55 | 2 59 | 16 58 | 0n 7 | 13 13 | 1 40 | 0 11 | 0 22 | 23 12 | 0 10 | 22 25 | 0 57 | 23 32 | 0 9  | 21 2  | 0 43 | 4 5  | 14 58 | 0 19 | 0 44 | 18 16 | 15 23 |
| W16  | 21 5  | 14 10 | 3 53 | 16 35 | 0 24 | 12 46 | 1 38 | 0n 7 | 0 21 | 23 13 | 0 9  | 22 25 | 0 57 | 23 32 | 0 9  | 21 3  | 0 43 | 4 5  | 14 58 | 0 18 | 0 43 | 18 16 | 15 24 |
| T 17 | 20 53 | 16 38 | 4 34 | 16 15 | 0 41 | 12 19 | 1 37 | 0 25 | 0 20 | 23 13 | 0 9  | 22 25 | 0 57 | 23 32 | 0 9  | 21 3  | 0 43 | 4 5  | 14 59 | 0 16 | 0 42 | 18 16 | 15 24 |
| F 18 | 20 42 | 18 4  | 4 58 | 15 57 | 0 59 | 11 51 | 1 36 | 0 44 | 0 19 | 23 13 | 0 9  | 22 25 | 0 57 | 23 32 | 0 9  | 21 3  | 0 43 | 4 5  | 14 59 | 0 13 | 0 40 | 18 16 | 15 25 |
| S 19 | 20 30 | 18 16 | 5 2  | 15 41 | 1 18 | 11 23 | 1 34 | 1 2  | 0 18 | 23 14 | 0 9  | 22 26 | 0 57 | 23 32 | 0 9  | 21 3  | 0 43 | 4 4  | 14 59 | 0 9  | 0 39 | 18 16 | 15 25 |
| S 20 | 20 17 | 17 10 | 4 45 | 15 29 | 1 36 | 10 55 | 1 32 | 1 20 | 0 17 | 23 14 | 0 9  | 22 26 | 0 56 | 23 32 | 0 9  | 21 4  | 0 43 | 4 4  | 15 0  | 0 5  | 0 38 | 18 16 | 15 26 |
| M21  | 20 4  | 14 51 | 4 8  | 15 21 | 1 55 | 10 26 | 1 30 | 1 38 | 0 16 | 23 14 | 0 9  | 22 26 | 0 56 | 23 32 | 0 9  | 21 4  | 0 43 | 4 4  | 15 0  | 0 2  | 0 36 | 18 16 | 15 26 |
| T 22 | 19 51 | 11 36 | 3 14 | 15 15 | 2 13 | 9 57  | 1 29 | 1 56 | 0 15 | 23 14 | 0 9  | 22 26 | 0 56 | 23 32 | 0 9  | 21 4  | 0 43 | 4 4  | 15 1  | 0n 1 | 0 35 | 18 16 | 15 27 |
| W23  | 19 38 | 7 42  | 2 9  | 15 13 | 2 30 | 9 28  | 1 27 | 2 14 | 0 14 | 23 15 | 0 8  | 22 27 | 0 56 | 23 32 | 0 9  | 21 4  | 0 43 | 4 4  | 15 1  | 0 3  | 0 34 | 18 16 | 15 27 |
| T 24 | 19 24 | 3 29  | 0 58 | 15 15 | 2 45 | 8 59  | 1 25 | 2 32 | 0 13 | 23 15 | 0 8  | 22 27 | 0 56 | 23 33 | 0 9  | 21 5  | 0 43 | 4 4  | 15 2  | 0 4  | 0 33 | 18 16 | 15 28 |
| F 25 | 19 9  | 0s46  | 0n14 | 15 19 | 2 59 | 8 29  | 1 22 | 2 50 | 0 11 | 23 15 | 0 8  | 22 27 | 0 56 | 23 33 | 0 9  | 21 5  | 0 42 | 4 4  | 15 2  | 0 4  | 0 31 | 18 16 | 15 28 |
| S 26 | 18 55 | 4 50  | 1 24 | 15 27 | 3 11 | 7 59  | 1 20 | 3 8  | 0 10 | 23 15 | 0 8  | 22 27 | 0 56 | 23 33 | 0 9  | 21 5  | 0 42 | 4 4  | 15 2  | 0 4  | 0 30 | 18 15 | 15 29 |
| S 27 | 18 40 | 8 34  | 2 27 | 15 36 | 3 20 | 7 29  | 1 18 | 3 26 | 0 9  | 23 16 | 0 8  | 22 28 | 0 55 | 23 33 | 0 9  | 21 6  | 0 42 | 4 3  | 15 3  | 0 4  | 0 29 | 18 15 | 15 29 |
| M28  | 18 25 | 11 48 | 3 21 | 15 48 | 3 27 | 6 59  | 1 16 | 3 44 | 0 8  | 23 16 | 0 8  | 22 28 | 0 55 | 23 33 | 0 9  | 21 6  | 0 42 | 4 3  | 15 3  | 0 4  | 0 28 | 18 15 | 15 30 |
| T 29 | 18 9  | 14 28 | 4 5  | 16 1  | 3 32 | 6 29  | 1 13 | 4 2  | 0 7  | 23 16 | 0 7  | 22 28 | 0 55 | 23 33 | 0 9  | 21 6  | 0 42 | 4 3  | 15 4  | 0 4  | 0 26 | 18 15 | 15 31 |
| W30  | 17 53 | 16 29 | 4 38 | 16 14 | 3 33 | 5 58  | 1 11 | 4 20 | 0 6  | 23 16 | 0 7  | 22 28 | 0 55 | 23 33 | 0 9  | 21 6  | 0 42 | 4 3  | 15 4  | 0 6  | 0 25 | 18 15 | 15 31 |
| T 31 | 17s37 | 17s46 | 4n59 | 16s29 | 3n33 | 5s28  | 1s 8 | 4n38 | 0s 5 | 23n17 | 0s 7 | 22n28 | 0s55 | 23s33 | 0s 9 | 21n 7 | 0s42 | 4s 3 | 15n 5 | 0n 8 | 0s24 | 18s15 | 15n32 |

# ASTRODIENST EPHEMERIS for the year 2239

## geocentric

FEBRUARY 2239

00:00 UT

| Day  | Sid.t    | ☉         | ☽         | ♀      | ♂      | ♂      | ♂     | ♂     | ♂      | ♂      | ♂      | ♂      | ♂      | ♂     | ♂      | Day  |
|------|----------|-----------|-----------|--------|--------|--------|-------|-------|--------|--------|--------|--------|--------|-------|--------|------|
| F 1  | 8 42 34  | 11°24'51" | 28°24'24" | 29°R51 | 20°H 1 | 12°V39 | 1°R32 | 2°R12 | 28°A40 | 20°R43 | 23°M44 | 29°R33 | 0°A57  | 1°B27 | 13°R17 | F 1  |
| S 2  | 8 46 30  | 12°25'49" | 10°B17    | 29°B 1 | 21°13  | 13°22  | 1°B28 | 2°B 9 | 28°43  | 20°B41 | 23°45  | 29°M24 | 0°54   | 1°33  | 13°B14 | S 2  |
| S 3  | 8 50 27  | 13°26'47" | 22°14     | 28°20  | 22°25  | 14° 5  | 1°23  | 2° 6  | 28°46  | 20°40  | 23°46  | 29°14  | 0°51   | 1°40  | 13°10  | S 3  |
| M 4  | 8 54 23  | 14°27'45" | 4°A18     | 27°47  | 23°37  | 14°48  | 1°19  | 2° 3  | 28°48  | 20°38  | 23°47  | 29° 5  | 0°47   | 1°47  | 13° 7  | M 4  |
| T 5  | 8 58 20  | 15°28'41" | 16°29     | 27°23  | 24°49  | 15°31  | 1°15  | 2° 0  | 28°51  | 20°37  | 23°47  | 28°57  | 0°44   | 1°53  | 13° 4  | T 5  |
| W 6  | 9 2 17   | 16°29'36" | 28°49     | 27° 8  | 26° 0  | 16°14  | 1°11  | 1°57  | 28°54  | 20°35  | 23°48  | 28°51  | 0°41   | 2° 0  | 13° 1  | W 6  |
| T 7  | 9 6 13   | 17°30'30" | 11°H19    | 27°D 1 | 27°12  | 16°57  | 1° 8  | 1°54  | 28°57  | 20°34  | 23°49  | 28°48  | 0°38   | 2° 7  | 12°58  | T 7  |
| F 8  | 9 10 10  | 18°31'23" | 23°59     | 27° 2  | 28°23  | 17°40  | 1° 4  | 1°52  | 28°59  | 20°32  | 23°49  | 28°D46 | 0°35   | 2°14  | 12°54  | F 8  |
| S 9  | 9 14 6   | 19°32'14" | 6°V52     | 27°10  | 29°35  | 18°22  | 1° 1  | 1°49  | 29° 2  | 20°31  | 23°50  | 28°46  | 0°31   | 2°20  | 12°51  | S 9  |
| S 10 | 9 18 3   | 20°33'04" | 19°57     | 27°25  | 0°V46  | 19° 5  | 0°58  | 1°47  | 29° 5  | 20°29  | 23°51  | 28°48  | 0°28   | 2°27  | 12°49  | S 10 |
| M 11 | 9 21 59  | 21°33'53" | 3°B18     | 27°46  | 1°57   | 19°48  | 0°55  | 1°44  | 29° 7  | 20°28  | 23°51  | 28°49  | 0°25   | 2°34  | 12°46  | M 11 |
| T 12 | 9 25 56  | 22°34'40" | 16°55     | 28°13  | 3° 9   | 20°31  | 0°52  | 1°42  | 29°10  | 20°27  | 23°52  | 28°R50 | 0°22   | 2°40  | 12°43  | T 12 |
| W 13 | 9 29 52  | 23°35'26" | 0°H50     | 28°45  | 4°20   | 21°14  | 0°50  | 1°40  | 29°12  | 20°25  | 23°52  | 28°50  | 0°19   | 2°47  | 12°40  | W 13 |
| T 14 | 9 33 49  | 24°36'10" | 15° 3     | 29°22  | 5°30   | 21°57  | 0°48  | 1°38  | 29°15  | 20°24  | 23°53  | 28°48  | 0°16   | 2°54  | 12°38  | T 14 |
| F 15 | 9 37 46  | 25°36'53" | 29°32     | 0°A 4  | 6°41   | 22°39  | 0°46  | 1°36  | 29°17  | 20°23  | 23°53  | 28°45  | 0°12   | 3° 1  | 12°35  | F 15 |
| S 16 | 9 41 42  | 26°37'34" | 14°B13    | 0°49   | 7°52   | 23°22  | 0°44  | 1°34  | 29°20  | 20°21  | 23°53  | 28°41  | 0° 9   | 3° 7  | 12°32  | S 16 |
| S 17 | 9 45 39  | 27°38'14" | 29° 0     | 1°39   | 9° 2   | 24° 5  | 0°42  | 1°33  | 29°22  | 20°20  | 23°54  | 28°36  | 0° 6   | 3°14  | 12°30  | S 17 |
| M 18 | 9 49 35  | 28°38'52" | 13°B45    | 2°32   | 10°13  | 24°47  | 0°41  | 1°31  | 29°24  | 20°19  | 23°54  | 28°32  | 0° 3   | 3°21  | 12°28  | M 18 |
| T 19 | 9 53 32  | 29°39'28" | 28°21     | 3°28   | 11°23  | 25°30  | 0°39  | 1°30  | 29°26  | 20°17  | 23°54  | 28°28  | 29°M59 | 3°28  | 12°25  | T 19 |
| W 20 | 9 57 28  | 0°H40'03" | 12°M42    | 4°27   | 12°33  | 26°13  | 0°38  | 1°28  | 29°29  | 20°16  | 23°54  | 28°26  | 29°57  | 3°34  | 12°23  | W 20 |
| T 21 | 10 1 25  | 1°40'36"  | 26°40     | 5°28   | 13°43  | 26°55  | 0°37  | 1°27  | 29°31  | 20°15  | 23°55  | 28°D25 | 29°53  | 3°41  | 12°21  | T 21 |
| F 22 | 10 5 21  | 2°41'09"  | 10°A15    | 6°32   | 14°53  | 27°38  | 0°37  | 1°26  | 29°33  | 20°14  | 23°55  | 28°25  | 29°50  | 3°48  | 12°19  | F 22 |
| S 23 | 10 9 18  | 3°41'39"  | 23°25     | 7°39   | 16° 2  | 28°20  | 0°36  | 1°25  | 29°35  | 20°13  | 23°55  | 28°27  | 29°47  | 3°54  | 12°17  | S 23 |
| S 24 | 10 13 15 | 4°42'09"  | 6°M13     | 8°47   | 17°12  | 29° 3  | 0°36  | 1°24  | 29°37  | 20°12  | 23°55  | 28°28  | 29°44  | 4° 1  | 12°15  | S 24 |
| M 25 | 10 17 11 | 5°42'37"  | 18°40     | 9°58   | 18°21  | 29°45  | 0°D36 | 1°23  | 29°39  | 20°11  | 23°55  | 28°30  | 29°41  | 4° 8  | 12°13  | M 25 |
| T 26 | 10 21 8  | 6°43'04"  | 0°A51     | 11°11  | 19°30  | 0°B28  | 0°36  | 1°22  | 29°41  | 20° 9  | 23°R55 | 28°31  | 29°37  | 4°15  | 12°11  | T 26 |
| W 27 | 10 25 4  | 7°43'30"  | 12°51     | 12°25  | 20°39  | 1°10   | 0°36  | 1°22  | 29°43  | 20° 8  | 23°55  | 28°R31 | 29°34  | 4°21  | 12°10  | W 27 |
| T 28 | 10 29 1  | 8°H43'54" | 24°A45    | 13°A41 | 21°V48 | 1°B52  | 0°B37 | 1°B21 | 29°A45 | 20°B 7 | 23°M55 | 28°M30 | 29°M31 | 4°B28 | 12°B 8 | T 28 |

| Day  | ☉     | ☽        | ♀        | ♂        | ♂        | ♂        | ♂        | ♂        | ♂        | ♂        | ♂        | ♂        | ♂        | ♂        | ♂        | Day   |
|------|-------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|-------|
|      | decl  | decl lat | decl lat | decl lat | decl lat | decl lat | decl lat | decl lat | decl lat | decl lat | decl lat | decl lat | decl lat | decl lat | decl lat |       |
| F 1  | 17s20 | 18s17    | 5n 7     | 16s44    | 3n30     | 4s57     | 1s 5     | 4n55     | 0s 4     | 23n17    | 0s 7     | 22n29    | 0s55     | 23s33    | 0s 9     | 21n 7 |
| S 2  | 17 3  | 18 0     | 5 1      | 16 58    | 3 26     | 4 26     | 1 2      | 5 13     | 0 3      | 23 17    | 0 7      | 22 29    | 0 54     | 23 33    | 0 9      | 21 7  |
| S 3  | 16 46 | 16 55    | 4 43     | 17 13    | 3 19     | 3 55     | 1 0      | 5 31     | 0 2      | 23 17    | 0 7      | 22 29    | 0 54     | 23 33    | 0 9      | 21 7  |
| M 4  | 16 28 | 15 5     | 4 12     | 17 26    | 3 12     | 3 24     | 0 57     | 5 48     | 0 1      | 23 17    | 0 7      | 22 29    | 0 54     | 23 33    | 0 9      | 21 8  |
| T 5  | 16 10 | 12 33    | 3 28     | 17 40    | 3 3      | 2 53     | 0 54     | 6 5      | 0 0      | 23 18    | 0 6      | 22 30    | 0 54     | 23 33    | 0 9      | 21 8  |
| W 6  | 15 52 | 9 27     | 2 35     | 17 52    | 2 53     | 2 22     | 0 51     | 6 23     | 0n 1     | 23 18    | 0 6      | 22 30    | 0 54     | 23 33    | 0 9      | 21 8  |
| T 7  | 15 34 | 5 52     | 1 33     | 18 4     | 2 43     | 1 50     | 0 47     | 6 40     | 0 1      | 23 18    | 0 6      | 22 30    | 0 54     | 23 33    | 0 9      | 21 8  |
| F 8  | 15 15 | 1 59     | 0 26     | 18 14    | 2 32     | 1 19     | 0 44     | 6 57     | 0 2      | 23 18    | 0 6      | 22 30    | 0 53     | 23 33    | 0 9      | 21 9  |
| S 9  | 14 56 | 2n 3     | 0s44     | 18 24    | 2 21     | 0 47     | 0 41     | 7 15     | 0 3      | 23 18    | 0 6      | 22 30    | 0 53     | 23 33    | 0 9      | 21 9  |
| S 10 | 14 37 | 6 3      | 1 53     | 18 32    | 2 9      | 0 16     | 0 37     | 7 32     | 0 4      | 23 18    | 0 6      | 22 31    | 0 53     | 23 33    | 0 9      | 21 9  |
| M 11 | 14 18 | 9 49     | 2 57     | 18 40    | 1 58     | 0n15     | 0 34     | 7 49     | 0 5      | 23 19    | 0 5      | 22 31    | 0 53     | 23 33    | 0 9      | 21 9  |
| T 12 | 13 58 | 13 9     | 3 52     | 18 46    | 1 46     | 0 47     | 0 31     | 8 6      | 0 6      | 23 19    | 0 5      | 22 31    | 0 53     | 23 33    | 0 9      | 21 9  |
| W 13 | 13 38 | 15 48    | 4 36     | 18 51    | 1 34     | 1 18     | 0 27     | 8 23     | 0 7      | 23 19    | 0 5      | 22 31    | 0 52     | 23 33    | 0 9      | 21 10 |
| T 14 | 13 18 | 17 33    | 5 3      | 18 54    | 1 23     | 1 50     | 0 23     | 8 39     | 0 8      | 23 19    | 0 5      | 22 31    | 0 52     | 23 33    | 0 9      | 21 10 |
| F 15 | 12 58 | 18 12    | 5 12     | 18 57    | 1 11     | 2 21     | 0 20     | 8 56     | 0 9      | 23 19    | 0 5      | 22 32    | 0 52     | 23 33    | 0 9      | 21 10 |
| S 16 | 12 37 | 17 40    | 5 1      | 18 58    | 1 0      | 2 52     | 0 16     | 9 13     | 0 10     | 23 19    | 0 5      | 22 32    | 0 52     | 23 33    | 0 9      | 21 10 |
| S 17 | 12 17 | 15 56    | 4 29     | 18 58    | 0 49     | 3 24     | 0 12     | 9 29     | 0 10     | 23 20    | 0 5      | 22 32    | 0 52     | 23 33    | 0 9      | 21 11 |
| M 18 | 11 56 | 13 9     | 3 40     | 18 57    | 0 38     | 3 55     | 0 8      | 9 46     | 0 11     | 23 20    | 0 4      | 22 32    | 0 52     | 23 33    | 0 9      | 21 11 |
| T 19 | 11 35 | 9 34     | 2 37     | 18 55    | 0 27     | 4 26     | 0 4      | 10 2     | 0 12     | 23 20    | 0 4      | 22 32    | 0 51     | 23 34    | 0 9      | 21 11 |
| W 20 | 11 13 | 5 28     | 1 25     | 18 51    | 0 17     | 4 57     | 0 0      | 10 18    | 0 13     | 23 20    | 0 4      | 22 33    | 0 51     | 23 34    | 0 9      | 21 11 |
| T 21 | 10 52 | 1 10     | 0 10     | 18 46    | 0 7      | 5 28     | 0n 4     | 10 34    | 0 14     | 23 20    | 0 4      | 22 33    | 0 51     | 23 34    | 0 9      | 21 11 |
| F 22 | 10 30 | 3s 4     | 1n 5     | 18 40    | 0s 3     | 5 59     | 0 8      | 10 51    | 0 15     | 23 20    | 0 4      | 22 33    | 0 51     | 23 34    | 0 9      | 21 12 |
| S 23 | 10 8  | 7 1      | 2 13     | 18 32    | 0 12     | 6 29     | 0 12     | 11 6     | 0 15     | 23 20    | 0 4      | 22 33    | 0 51     | 23 34    | 0 9      | 21 12 |
| S 24 | 9 46  | 10 32    | 3 13     | 18 23    | 0 22     | 7 0      | 0 16     | 11 22    | 0 16     | 23 21    | 0 4      | 22 33    | 0 50     | 23 34    | 0 9      | 21 12 |
| M 25 | 9 24  | 13 28    | 4 2      | 18 13    | 0 30     | 7 30     | 0 21     | 11 38    | 0 17     | 23 21    | 0 4      | 22 34    | 0 50     | 23 34    | 0 9      | 21 12 |
| T 26 | 9 2   | 15 45    | 4 39     | 18 1     | 0 39     | 8 0      | 0 25     | 11 54    | 0 18     | 23 21    | 0 3      | 22 34    | 0 50     | 23 34    | 0 9      | 21 12 |
| W 27 | 8 40  | 17 17    | 5 3      | 17 48    | 0 47     | 8 30     | 0 29     | 12 9     | 0 18     | 23 21    | 0 3      | 22 34    | 0 50     | 23 34    | 0 9      | 21 13 |
| T 28 | 8s17  | 18s 4    | 5n14     | 17s34    | 0s55     | 9n 0     | 0n34     | 12n25    | 0n19     | 23n21    | 0s 3     | 22n34    | 0s50     | 23s34    | 0s 9     | 21n13 |

Julian Day Number = 2538868.5, Delta T = 206.37 sec

Ecliptic obliquity = 23°24'20", Nutation = 0°00'02", out-of-bounds declination in red

Ayanamsha: Fagan/Bradley = 28°04'54", Lahiri = 27°11'55"

# ASTRODIENST EPHEMERIS for the year 2239

## geocentric

MARCH 2239

00:00 UT

| Day  | Sid.t    | ☉        | ☽     | ♂     | ♀     | ♂     | ♂    | ♂     | ♂     | ♂      | ♂      | ♂      | ♂     | ♂    | ♂      | Day  |
|------|----------|----------|-------|-------|-------|-------|------|-------|-------|--------|--------|--------|-------|------|--------|------|
| F 1  | 10 32 57 | 9♂44'17  | 6♂36  | 14♂58 | 22♀57 | 2♂35  | 0♂37 | 1°R21 | 29♂47 | 20°R 6 | 23°R55 | 28°R28 | 29♂28 | 4♂35 | 12°R 7 | F 1  |
| S 2  | 10 36 54 | 10°44'39 | 18°31 | 16°17 | 24° 6 | 3°17  | 0°38 | 1♂21  | 29°48 | 20♂ 5  | 23♂55  | 28♂26  | 29°25 | 4°42 | 12♂ 5  | S 2  |
| S 3  | 10 40 50 | 11°44'59 | 0♂31  | 17°38 | 25°14 | 3°59  | 0°39 | 1°21  | 29°50 | 20° 5  | 23°54  | 28°23  | 29°22 | 4°48 | 12° 4  | S 3  |
| M 4  | 10 44 47 | 12°45'17 | 12°41 | 19° 0 | 26°22 | 4°42  | 0°41 | 1°D21 | 29°52 | 20° 4  | 23°54  | 28°20  | 29°18 | 4°55 | 12° 3  | M 4  |
| T 5  | 10 48 44 | 13°45'34 | 25° 2 | 20°23 | 27°30 | 5°24  | 0°42 | 1°21  | 29°53 | 20° 3  | 23°54  | 28°18  | 29°15 | 5° 2 | 12° 2  | T 5  |
| W 6  | 10 52 40 | 14°45'49 | 7♂36  | 21°47 | 28°38 | 6° 6  | 0°44 | 1°21  | 29°55 | 20° 2  | 23°54  | 28°17  | 29°12 | 5° 8 | 12° 1  | W 6  |
| T 7  | 10 56 37 | 15°46'03 | 20°24 | 23°13 | 29°46 | 6°48  | 0°46 | 1°21  | 29°56 | 20° 1  | 23°53  | 28°16  | 29° 9 | 5°15 | 12° 0  | T 7  |
| F 8  | 11 0 33  | 16°46'14 | 3♀26  | 24°40 | 0♂53  | 7°30  | 0°48 | 1°22  | 29°58 | 20° 0  | 23°53  | 28°D16 | 29° 6 | 5°22 | 11°59  | F 8  |
| S 9  | 11 4 30  | 17°46'24 | 16°41 | 26° 9 | 2° 0  | 8°12  | 0°50 | 1°22  | 29°59 | 20° 0  | 23°53  | 28°16  | 29° 3 | 5°29 | 11°58  | S 9  |
| S 10 | 11 8 26  | 18°46'32 | 0♂10  | 27°38 | 3° 7  | 8°54  | 0°53 | 1°23  | 0♂ 1  | 19°59  | 23°52  | 28°17  | 28°59 | 5°35 | 11°57  | S 10 |
| M11  | 11 12 23 | 19°46'38 | 13°50 | 29° 9 | 4°14  | 9°36  | 0°55 | 1°24  | 0° 2  | 19°58  | 23°52  | 28°18  | 28°56 | 5°42 | 11°57  | M11  |
| T 12 | 11 16 19 | 20°46'41 | 27°40 | 0♂40  | 5°21  | 10°18 | 0°58 | 1°24  | 0° 3  | 19°57  | 23°51  | 28°19  | 28°53 | 5°49 | 11°56  | T 12 |
| W13  | 11 20 16 | 21°46'43 | 11♂41 | 2°13  | 6°27  | 11° 0 | 1° 1 | 1°25  | 0° 4  | 19°57  | 23°51  | 28°19  | 28°50 | 5°55 | 11°56  | W13  |
| T 14 | 11 24 12 | 22°46'43 | 25°50 | 3°47  | 7°33  | 11°42 | 1° 5 | 1°26  | 0° 6  | 19°56  | 23°50  | 28°R19 | 28°47 | 6° 2 | 11°55  | T 14 |
| F 15 | 11 28 9  | 23°46'40 | 10♂ 4 | 5°23  | 8°39  | 12°24 | 1° 8 | 1°28  | 0° 7  | 19°56  | 23°50  | 28°19  | 28°43 | 6° 9 | 11°55  | F 15 |
| S 16 | 11 32 6  | 24°46'35 | 24°23 | 6°59  | 9°45  | 13° 6 | 1°12 | 1°29  | 0° 8  | 19°55  | 23°49  | 28°19  | 28°40 | 6°16 | 11°55  | S 16 |
| S 17 | 11 36 2  | 25°46'28 | 8♂42  | 8°37  | 10°50 | 13°48 | 1°15 | 1°30  | 0° 9  | 19°55  | 23°48  | 28°18  | 28°37 | 6°22 | 11°D55 | S 17 |
| M18  | 11 39 59 | 26°46'18 | 22°57 | 10°15 | 11°55 | 14°30 | 1°19 | 1°32  | 0°10  | 19°54  | 23°48  | 28°18  | 28°34 | 6°29 | 11°55  | M18  |
| T 19 | 11 43 55 | 27°46'07 | 7♂ 5  | 11°55 | 13° 0 | 15°11 | 1°24 | 1°34  | 0°11  | 19°54  | 23°47  | 28°18  | 28°31 | 6°36 | 11°55  | T 19 |
| W20  | 11 47 52 | 28°45'53 | 21° 1 | 13°36 | 14° 5 | 15°53 | 1°28 | 1°35  | 0°12  | 19°53  | 23°46  | 28°18  | 28°28 | 6°43 | 11°55  | W20  |
| T 21 | 11 51 48 | 29°45'37 | 4♂42  | 15°19 | 15° 9 | 16°35 | 1°32 | 1°37  | 0°12  | 19°53  | 23°46  | 28°18  | 28°24 | 6°49 | 11°56  | T 21 |
| F 22 | 11 55 45 | 0♀45'20  | 18° 6 | 17° 2 | 16°13 | 17°16 | 1°37 | 1°39  | 0°13  | 19°53  | 23°45  | 28°18  | 28°21 | 6°56 | 11°56  | F 22 |
| S 23 | 11 59 41 | 1°45'00  | 1♂11  | 18°47 | 17°17 | 17°58 | 1°42 | 1°41  | 0°14  | 19°52  | 23°44  | 28°18  | 28°18 | 7° 3 | 11°56  | S 23 |
| S 24 | 12 3 38  | 2°44'39  | 13°57 | 20°33 | 18°20 | 18°39 | 1°47 | 1°44  | 0°14  | 19°52  | 23°43  | 28°17  | 28°15 | 7° 9 | 11°57  | S 24 |
| M25  | 12 7 35  | 3°44'16  | 26°25 | 22°20 | 19°23 | 19°21 | 1°52 | 1°46  | 0°15  | 19°52  | 23°42  | 28°17  | 28°12 | 7°16 | 11°58  | M25  |
| T 26 | 12 11 31 | 4°43'51  | 8♂39  | 24° 9 | 20°26 | 20° 2 | 1°57 | 1°48  | 0°16  | 19°52  | 23°41  | 28°16  | 28° 8 | 7°23 | 11°58  | T 26 |
| W27  | 12 15 28 | 5°43'25  | 20°42 | 25°58 | 21°28 | 20°44 | 2° 3 | 1°51  | 0°16  | 19°51  | 23°40  | 28°15  | 28° 5 | 7°30 | 11°59  | W27  |
| T 28 | 12 19 24 | 6°42'57  | 2♂37  | 27°49 | 22°30 | 21°25 | 2° 8 | 1°53  | 0°17  | 19°51  | 23°39  | 28°D15 | 28° 2 | 7°36 | 12° 0  | T 28 |
| F 29 | 12 23 21 | 7°42'27  | 14°30 | 29°42 | 23°32 | 22° 7 | 2°14 | 1°56  | 0°17  | 19°51  | 23°38  | 28°15  | 27°59 | 7°43 | 12° 1  | F 29 |
| S 30 | 12 27 17 | 8°41'55  | 26°25 | 1°♀35 | 24°33 | 22°48 | 2°20 | 1°59  | 0°17  | 19°51  | 23°37  | 28°15  | 27°56 | 7°50 | 12° 2  | S 30 |
| S 31 | 12 31 14 | 9♀41'21  | 8♂26  | 3♀30  | 25♂34 | 23♂29 | 2♂26 | 2♂ 2  | 0♂18  | 19♂51  | 23♂36  | 28♂16  | 27♂53 | 7♂56 | 12♂ 3  | S 31 |

| Day  | ☉    | ☾     |      | ♂     |      | ♀     |      | ♂     |      | ♂     |      | ♂     |      | ♂     |      | ♂     |      | ♂    |       | ♂    |      | ♂     |       | ♂    |     |
|------|------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|------|------|-------|------|------|-------|-------|------|-----|
|      | decl | decl  | lat  | decl  | lat  | decl  | lat  | decl  | lat  | decl  | lat  | decl  | lat  | decl  | lat  | decl  | lat  | decl | lat   | decl | lat  | decl  | lat   | decl | lat |
| F 1  | 7s54 | 18s 3 | 5n12 | 17s19 | 1s 2 | 9n30  | 0n38 | 12n40 | 0n20 | 23n21 | 0s 3 | 22n34 | 0s49 | 23s34 | 0s 9 | 21n13 | 0s42 | 3s52 | 15n18 | 0n36 | 0n13 | 18s12 | 15n50 | 7s 3 |     |
| S 2  | 7 32 | 17 14 | 4 56 | 17 2  | 1 10 | 9 59  | 0 43 | 12 55 | 0 21 | 23 21 | 0 3  | 22 35 | 0 49 | 23 34 | 0 9  | 21 13 | 0 42 | 3 52 | 15 19 | 0 37 | 0 14 | 18 12 | 15 50 | 7 3  |     |
| S 3  | 7 9  | 15 40 | 4 27 | 16 44 | 1 16 | 10 29 | 0 47 | 13 10 | 0 21 | 23 22 | 0 3  | 22 35 | 0 49 | 23 34 | 0 9  | 21 13 | 0 42 | 3 51 | 15 19 | 0 39 | 0 15 | 18 12 | 15 51 | 7 2  |     |
| M 4  | 6 46 | 13 22 | 3 46 | 16 25 | 1 23 | 10 58 | 0 52 | 13 25 | 0 22 | 23 22 | 0 3  | 22 35 | 0 49 | 23 34 | 0 9  | 21 13 | 0 42 | 3 51 | 15 19 | 0 40 | 0 17 | 18 12 | 15 52 | 7 2  |     |
| T 5  | 6 23 | 10 26 | 2 54 | 16 5  | 1 29 | 11 27 | 0 56 | 13 40 | 0 23 | 23 22 | 0 2  | 22 35 | 0 49 | 23 34 | 0 9  | 21 14 | 0 42 | 3 50 | 15 20 | 0 40 | 0 18 | 18 12 | 15 52 | 7 1  |     |
| W 6  | 6 0  | 6 58  | 1 52 | 15 43 | 1 35 | 11 55 | 1 1  | 13 54 | 0 24 | 23 22 | 0 2  | 22 35 | 0 49 | 23 34 | 0 9  | 21 14 | 0 42 | 3 50 | 15 20 | 0 41 | 0 19 | 18 12 | 15 53 | 7 1  |     |
| T 7  | 5 36 | 3 8   | 0 43 | 15 20 | 1 40 | 12 23 | 1 5  | 14 9  | 0 24 | 23 22 | 0 2  | 22 36 | 0 48 | 23 34 | 0 10 | 21 14 | 0 42 | 3 49 | 15 21 | 0 41 | 0 20 | 18 11 | 15 53 | 7 0  |     |
| F 8  | 5 13 | 0n56  | 0s29 | 14 56 | 1 45 | 12 51 | 1 10 | 14 23 | 0 25 | 23 22 | 0 2  | 22 36 | 0 48 | 23 34 | 0 10 | 21 14 | 0 41 | 3 49 | 15 21 | 0 41 | 0 22 | 18 11 | 15 54 | 7 0  |     |
| S 9  | 4 50 | 5 0   | 1 40 | 14 31 | 1 50 | 13 19 | 1 15 | 14 38 | 0 26 | 23 22 | 0 2  | 22 36 | 0 48 | 23 34 | 0 10 | 21 14 | 0 41 | 3 48 | 15 22 | 0 41 | 0 23 | 18 11 | 15 55 | 6 59 |     |
| S 10 | 4 26 | 8 54  | 2 48 | 14 4  | 1 54 | 13 47 | 1 19 | 14 52 | 0 26 | 23 22 | 0 2  | 22 36 | 0 48 | 23 34 | 0 10 | 21 14 | 0 41 | 3 48 | 15 22 | 0 41 | 0 24 | 18 11 | 15 55 | 6 59 |     |
| M11  | 4 3  | 12 22 | 3 47 | 13 36 | 1 58 | 14 14 | 1 24 | 15 6  | 0 27 | 23 22 | 0 2  | 22 36 | 0 48 | 23 34 | 0 10 | 21 14 | 0 41 | 3 47 | 15 22 | 0 41 | 0 25 | 18 11 | 15 56 | 6 58 |     |
| T 12 | 3 39 | 15 11 | 4 33 | 13 7  | 2 2  | 14 41 | 1 29 | 15 20 | 0 28 | 23 23 | 0 2  | 22 36 | 0 47 | 23 34 | 0 10 | 21 15 | 0 41 | 3 47 | 15 23 | 0 40 | 0 27 | 18 11 | 15 56 | 6 58 |     |
| W13  | 3 15 | 17 8  | 5 4  | 12 37 | 2 5  | 15 7  | 1 33 | 15 34 | 0 28 | 23 23 | 0 1  | 22 37 | 0 47 | 23 34 | 0 10 | 21 15 | 0 41 | 3 46 | 15 23 | 0 40 | 0 28 | 18 10 | 15 57 | 6 57 |     |
| T 14 | 2 52 | 18 4  | 5 17 | 12 5  | 2 7  | 15 33 | 1 38 | 15 47 | 0 29 | 23 23 | 0 1  | 22 37 | 0 47 | 23 34 | 0 10 | 21 15 | 0 41 | 3 46 | 15 24 | 0 40 | 0 29 | 18 10 | 15 57 | 6 56 |     |
| F 15 | 2 28 | 17 52 | 5 10 | 11 32 | 2 10 | 15 59 | 1 43 | 16 1  | 0 30 | 23 23 | 0 1  | 22 37 | 0 47 | 23 34 | 0 10 | 21 15 | 0 41 | 3 45 | 15 24 | 0 40 | 0 30 | 18 10 | 15 58 | 6 56 |     |
| S 16 | 2 4  | 16 32 | 4 45 | 10 58 | 2 12 | 16 25 | 1 47 | 16 14 | 0 30 | 23 23 | 0 1  | 22 37 | 0 47 | 23 34 | 0 10 | 21 15 | 0 41 | 3 44 | 15 25 | 0 40 | 0 32 | 18 10 | 15 59 | 6 55 |     |
| S 17 | 1 41 | 14 10 | 4 2  | 10 23 | 2 13 | 16 50 | 1 52 | 16 27 | 0 31 | 23 23 | 0 1  | 22 37 | 0 47 | 23 34 | 0 10 | 21 15 | 0 41 | 3 44 | 15 25 | 0 40 | 0 33 | 18 10 | 15 59 | 6 55 |     |
| M18  | 1 17 | 10 57 | 3 4  | 9 47  | 2 14 | 17 15 | 1 57 | 16 40 | 0 32 | 23 23 | 0 1  | 22 37 | 0 46 | 23 34 | 0 10 | 21 15 | 0 41 | 3 43 | 15 25 | 0 40 | 0 34 | 18 9  | 16 0  | 6 54 |     |
| T 19 | 0 53 | 7 7   | 1 55 | 9 9   | 2 15 | 17 39 | 2 1  | 16 53 | 0 32 | 23 23 | 0 1  | 22 38 | 0 46 | 23 34 | 0 10 | 21 15 | 0 41 | 3 43 | 15 26 | 0 40 | 0 35 | 18 9  | 16 0  | 6 54 |     |
| W20  | 0 29 | 2 56  | 0 40 | 8 31  | 2 15 | 18 3  | 2 6  | 17 6  | 0 33 | 23 23 | 0 1  | 22 38 | 0 46 | 23 34 | 0 10 | 21 15 | 0 41 | 3 42 | 15 26 | 0 40 | 0 37 | 18 9  | 16 1  | 6 53 |     |
| T 21 | 0 6  | 1s19  | 0n35 | 7 51  | 2 15 | 18 27 | 2 11 | 17 18 | 0 34 | 23 23 | 0 0  | 22 38 | 0 46 | 23 34 | 0 10 | 21 15 | 0 41 | 3 42 | 15 27 | 0 40 | 0 38 | 18 9  | 16 1  | 6 53 |     |
| F 22 | 0n18 | 5 26  | 1 48 | 7 10  | 2 14 | 18 50 | 2 16 | 17 31 | 0 34 | 23 23 | 0 0  | 22 38 | 0 46 | 23 34 | 0 10 | 21 16 | 0 41 | 3 41 | 15 27 | 0 41 | 0 39 | 18 9  | 16 2  | 6 52 |     |
| S 23 | 0 42 | 9 10  | 2 52 | 6 28  | 2 13 | 19 12 | 2 20 | 17 43 | 0 35 | 23 23 | 0 0  | 22 38 | 0 45 | 23 34 | 0 10 | 21 16 | 0 41 | 3 41 | 15 27 | 0 41 | 0 41 | 18 8  | 16 2  | 6 51 |     |
| S 24 | 1 5  | 12 23 | 3 47 | 5 45  | 2 11 | 19 35 | 2 25 | 17 55 | 0 35 | 23 24 | 0 0  | 22 38 | 0 45 | 23 34 | 0 10 | 21 16 | 0 41 | 3 40 | 15 28 | 0 41 | 0 42 | 18 8  | 16 3  | 6 51 |     |
| M25  | 1 29 | 14 57 | 4 29 | 5 1   | 2 9  | 19 57 | 2 29 | 18 7  | 0 36 | 23 24 | 0n 0 | 22 39 | 0 45 | 23 34 | 0 10 | 21 16 | 0 41 | 3 40 | 15 28 | 0 41 | 0 43 | 18 8  | 16 3  | 6 50 |     |
| T 26 | 1 53 | 16 48 | 4 59 | 4 15  | 2 6  | 20 18 | 2 34 | 18 19 | 0 36 | 23 24 | 0 0  | 22 39 | 0 45 | 23 34 | 0 10 | 21 16 | 0 41 | 3 39 | 15 28 | 0 41 | 0 44 | 18 8  | 16 4  | 6 50 |     |
| W27  | 2 16 | 17 51 | 5 14 | 3 29  | 2 3  | 20 39 | 2 39 | 18 30 | 0 37 | 23 24 | 0 0  | 22 39 | 0 45 | 23 34 | 0 10 | 21 16 | 0 41 | 3 38 | 15 29 | 0 42 | 0 46 | 18 8  | 16 4  | 6 49 |     |
| T 28 | 2 40 | 18 7  | 5 16 | 2 42  | 2 0  | 21 0  | 2 43 | 18 42 | 0 38 | 23 24 | 0 0  | 22 39 | 0 45 | 23 34 | 0 10 | 21 16 | 0 41 | 3 38 | 15 29 | 0 42 | 0 47 | 18 7  | 16 5  | 6 49 |     |
| F 29 | 3 3  | 17 35 | 5 4  | 1 53  | 1 55 | 21 20 | 2 48 | 18 53 | 0 38 | 23 24 | 0 0  | 22 39 | 0 44 | 23 34 | 0 10 | 21 16 | 0 41 | 3 37 | 15 29 | 0 42 | 0 48 | 18 7  | 16 5  | 6 48 |     |
| S 30 | 3 27 | 16 16 | 4 40 | 1 4   | 1 51 | 21 40 | 2 52 | 19 4  | 0 39 | 23 24 | 0 1  | 22 39 | 0 44 | 23 34 | 0 10 | 21 16 | 0 41 | 3 37 | 15 30 | 0 42 | 0 49 | 18 7  | 16 6  | 6 47 |     |
| S 31 | 3n50 | 14s14 | 4n 2 | 0s14  | 1s46 | 21n59 | 2n56 | 19n15 | 0n39 | 23n24 | 0n 1 | 22n39 | 0s44 | 23s34 | 0s10 | 21n16 | 0s41 | 3s36 | 15n30 | 0n41 | 0n51 | 18s 7 | 16n 6 | 6s47 |     |

## ASTRODIENST EPHEMERIS for the year 2239

geocentric

APRIL 2239

00:00 UT

| Day  | Sid.t    | ☉         | ☽       | ♂       | ♀       | ♂       | ♂     | ♂     | ♂     | ♂      | ♂       | ♂       | ♂       | ♂       | ♂       | Day  |
|------|----------|-----------|---------|---------|---------|---------|-------|-------|-------|--------|---------|---------|---------|---------|---------|------|
| M 1  | 12 35 10 | 10°40'46  | 20°39   | 5°26    | 26°35   | 24°11   | 2°33  | 2°5   | 0°18  | 19°D51 | 23°R35  | 28°17   | 27°49   | 8°3     | 12°5    | M 1  |
| T 2  | 12 39 7  | 11°40'08  | 3°6     | 7°24    | 27°35   | 24°52   | 2°39  | 2°8   | 0°18  | 19°51  | 23°M34  | 28°19   | 27°46   | 8°10    | 12°6    | T 2  |
| W 3  | 12 43 4  | 12°39'29  | 15°50   | 9°22    | 28°34   | 25°33   | 2°46  | 2°11  | 0°18  | 19°51  | 23°33   | 28°20   | 27°43   | 8°17    | 12°8    | W 3  |
| T 4  | 12 47 0  | 13°38'48  | 28°54   | 11°22   | 29°34   | 26°14   | 2°53  | 2°15  | 0°18  | 19°51  | 23°32   | 28°R20  | 27°40   | 8°23    | 12°9    | T 4  |
| F 5  | 12 50 57 | 14°38'05  | 12°16   | 13°23   | 0°II33  | 26°55   | 2°59  | 2°18  | 0°R18 | 19°51  | 23°31   | 28°19   | 27°37   | 8°30    | 12°11   | F 5  |
| S 6  | 12 54 53 | 15°37'20  | 25°57   | 15°24   | 1°31    | 27°37   | 3°6   | 2°21  | 0°18  | 19°52  | 23°29   | 28°18   | 27°34   | 8°37    | 12°12   | S 6  |
| S 7  | 12 58 50 | 16°36'33  | 9°53    | 17°27   | 2°29    | 28°18   | 3°14  | 2°25  | 0°18  | 19°52  | 23°28   | 28°16   | 27°30   | 8°43    | 12°14   | S 7  |
| M 8  | 13 2 46  | 17°35'44  | 24°1    | 19°30   | 3°26    | 28°59   | 3°21  | 2°29  | 0°18  | 19°52  | 23°27   | 28°13   | 27°27   | 8°50    | 12°16   | M 8  |
| T 9  | 13 6 43  | 18°34'53  | 8°II17  | 21°34   | 4°23    | 29°40   | 3°28  | 2°33  | 0°18  | 19°52  | 23°26   | 28°11   | 27°24   | 8°57    | 12°18   | T 9  |
| W10  | 13 10 39 | 19°33'59  | 22°35   | 23°39   | 5°20    | 0°II21  | 3°36  | 2°36  | 0°17  | 19°53  | 23°24   | 28°8    | 27°21   | 9°4     | 12°20   | W10  |
| T 11 | 13 14 36 | 20°33'03  | 6°53    | 25°44   | 6°16    | 1°2     | 3°44  | 2°40  | 0°17  | 19°53  | 23°23   | 28°7    | 27°18   | 9°10    | 12°22   | T 11 |
| F 12 | 13 18 33 | 21°32'05  | 21°7    | 27°48   | 7°11    | 1°43    | 3°52  | 2°44  | 0°17  | 19°53  | 23°22   | 28°D6   | 27°14   | 9°17    | 12°25   | F 12 |
| S 13 | 13 22 29 | 22°31'04  | 5°II14  | 29°53   | 8°6     | 2°24    | 4°0   | 2°49  | 0°16  | 19°54  | 23°20   | 28°7    | 27°11   | 9°24    | 12°27   | S 13 |
| S 14 | 13 26 26 | 23°30'01  | 19°13   | 1°56    | 9°0     | 3°4     | 4°8   | 2°53  | 0°16  | 19°54  | 23°19   | 28°8    | 27°8    | 9°31    | 12°29   | S 14 |
| M15  | 13 30 22 | 24°28'56  | 3°II3   | 3°59    | 9°54    | 3°45    | 4°16  | 2°57  | 0°16  | 19°55  | 23°17   | 28°9    | 27°5    | 9°37    | 12°32   | M15  |
| T 16 | 13 34 19 | 25°27'49  | 16°43   | 6°1     | 10°47   | 4°26    | 4°25  | 3°2   | 0°15  | 19°55  | 23°16   | 28°11   | 27°2    | 9°44    | 12°34   | T 16 |
| W17  | 13 38 15 | 26°26'39  | 0°II12  | 8°1     | 11°39   | 5°7     | 4°33  | 3°6   | 0°14  | 19°56  | 23°15   | 28°R11  | 26°59   | 9°51    | 12°37   | W17  |
| T 18 | 13 42 12 | 27°25'27  | 13°29   | 9°59    | 12°30   | 5°47    | 4°42  | 3°11  | 0°14  | 19°56  | 23°13   | 28°10   | 26°55   | 9°57    | 12°40   | T 18 |
| F 19 | 13 46 8  | 28°24'13  | 26°32   | 11°55   | 13°21   | 6°28    | 4°50  | 3°15  | 0°13  | 19°57  | 23°12   | 28°8    | 26°52   | 10°4    | 12°43   | F 19 |
| S 20 | 13 50 5  | 29°22'57  | 9°II23  | 13°48   | 14°11   | 7°9     | 4°59  | 3°20  | 0°12  | 19°57  | 23°10   | 28°4    | 26°49   | 10°11   | 12°45   | S 20 |
| S 21 | 13 54 1  | 0°8'21'39 | 21°59   | 15°38   | 15°0    | 7°49    | 5°8   | 3°25  | 0°11  | 19°58  | 23°9    | 27°59   | 26°46   | 10°18   | 12°48   | S 21 |
| M22  | 13 57 58 | 1°20'20   | 4°II23  | 17°25   | 15°49   | 8°30    | 5°17  | 3°30  | 0°11  | 19°59  | 23°7    | 27°53   | 26°43   | 10°24   | 12°51   | M22  |
| T 23 | 14 1 55  | 2°18'59   | 16°34   | 19°9    | 16°36   | 9°10    | 5°27  | 3°35  | 0°10  | 19°59  | 23°6    | 27°47   | 26°39   | 10°31   | 12°54   | T 23 |
| W24  | 14 5 51  | 3°17'36   | 28°36   | 20°48   | 17°23   | 9°51    | 5°36  | 3°40  | 0°9   | 20°0   | 23°4    | 27°42   | 26°36   | 10°38   | 12°58   | W24  |
| T 25 | 14 9 48  | 4°16'11   | 10°31   | 22°24   | 18°9    | 10°31   | 5°46  | 3°45  | 0°8   | 20°1   | 23°3    | 27°38   | 26°33   | 10°44   | 13°1    | T 25 |
| F 26 | 14 13 44 | 5°14'44   | 22°23   | 23°55   | 18°54   | 11°12   | 5°55  | 3°50  | 0°7   | 20°2   | 23°1    | 27°35   | 26°30   | 10°51   | 13°4    | F 26 |
| S 27 | 14 17 41 | 6°13'16   | 4°II17  | 25°22   | 19°38   | 11°52   | 6°5   | 3°56  | 0°6   | 20°3   | 22°59   | 27°D34  | 26°27   | 10°58   | 13°8    | S 27 |
| S 28 | 14 21 37 | 7°11'47   | 16°17   | 26°45   | 20°21   | 12°33   | 6°15  | 4°1   | 0°5   | 20°4   | 22°58   | 27°35   | 26°24   | 11°5    | 13°11   | S 28 |
| M29  | 14 25 34 | 8°10'15   | 28°29   | 28°3    | 21°3    | 13°13   | 6°24  | 4°6   | 0°3   | 20°4   | 22°56   | 27°36   | 26°20   | 11°11   | 13°15   | M29  |
| T 30 | 14 29 30 | 9°8'42    | 10°II57 | 29°8'16 | 21°II44 | 13°II53 | 6°534 | 4°512 | 0°2   | 20°5   | 22°II55 | 27°II37 | 26°II17 | 11°II18 | 13°II18 | T 30 |

| Day | ☉ | ☾ |  | ♀ |  | ♀ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  | ♂ |  |
|-----|---|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|
|-----|---|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|

# ASTRODIENST EPHEMERIS for the year 2239

## geocentric

MAY 2239

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| Day  | Sid.t    | ☉           | ☽           | ♀           | ♂           | ♂           | ♂           | ♂          | ♂           | ♂           | ♂           | ♂           | ♂           | ♂           | ♂           | Day  |
|------|----------|-------------|-------------|-------------|-------------|-------------|-------------|------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|------|
| W 1  | 14 33 27 | 10° 8' 08"  | 23° 45' 45" | 0° 22' 24"  | 22° 11' 24" | 14° 11' 33" | 6° 45' 45"  | 4° 17' 17" | 0° 11' 11"  | 20° 25' 06" | 22° 11' 53" | 27° 11' 38" | 26° 11' 14" | 11° 25' 25" | 13° 22' 22" | W 1  |
| T 2  | 14 37 24 | 11° 5' 31"  | 6° 56' 56"  | 1° 28' 28"  | 23° 3' 3"   | 15° 14' 14" | 6° 55' 55"  | 4° 23' 23" | 29° 57' 59" | 20° 7' 7"   | 22° 11' 51" | 27° 11' 38" | 26° 11' 11" | 11° 31' 31" | 13° 26' 26" | T 2  |
| F 3  | 14 41 20 | 12° 3' 54"  | 20° 32' 32" | 2° 26' 26"  | 23° 40' 40" | 15° 54' 54" | 7° 5' 5"    | 4° 29' 29" | 29° 58' 58" | 20° 8' 8"   | 22° 50' 50" | 27° 36' 36" | 26° 8' 8"   | 11° 38' 38" | 13° 30' 30" | F 3  |
| S 4  | 14 45 17 | 13° 2' 14"  | 4° 32' 32"  | 3° 19' 19"  | 24° 16' 16" | 16° 34' 34" | 7° 15' 15"  | 4° 35' 35" | 29° 57' 57" | 20° 9' 9"   | 22° 48' 48" | 27° 32' 32" | 26° 5' 5"   | 11° 45' 45" | 13° 33' 33" | S 4  |
| S 5  | 14 49 13 | 14° 0' 33"  | 18° 53' 53" | 4° 7' 7"    | 24° 51' 51" | 17° 14' 14" | 7° 26' 26"  | 4° 40' 40" | 29° 56' 56" | 20° 11' 11" | 22° 46' 46" | 27° 26' 26" | 26° 1' 1"   | 11° 52' 52" | 13° 37' 37" | S 5  |
| M 6  | 14 53 10 | 14° 58' 50" | 3° 11' 29"  | 4° 50' 50"  | 25° 25' 25" | 17° 54' 54" | 7° 36' 36"  | 4° 46' 46" | 29° 54' 54" | 20° 12' 12" | 22° 45' 45" | 27° 18' 18" | 25° 58' 58" | 11° 58' 58" | 13° 41' 41" | M 6  |
| T 7  | 14 57 6  | 15° 57' 05" | 18° 12' 12" | 5° 28' 28"  | 25° 57' 57" | 18° 35' 35" | 7° 47' 47"  | 4° 52' 52" | 29° 53' 53" | 20° 13' 13" | 22° 43' 43" | 27° 11' 11" | 25° 55' 55" | 12° 5' 5"   | 13° 46' 46" | T 7  |
| W 8  | 15 1 3   | 16° 55' 18" | 2° 56' 56"  | 6° 0' 0"    | 26° 28' 28" | 19° 15' 15" | 7° 58' 58"  | 4° 58' 58" | 29° 51' 51" | 20° 14' 14" | 22° 41' 41" | 27° 4' 4"   | 25° 52' 52" | 12° 12' 12" | 13° 50' 50" | W 8  |
| T 9  | 15 4 59  | 17° 53' 30" | 17° 32' 32" | 6° 27' 27"  | 26° 57' 57" | 19° 55' 55" | 8° 9' 9"    | 5° 5' 5"   | 29° 49' 49" | 20° 15' 15" | 22° 40' 40" | 26° 59' 59" | 25° 49' 49" | 12° 18' 18" | 13° 54' 54" | T 9  |
| F 10 | 15 8 56  | 18° 51' 39" | 1° 56' 56"  | 6° 48' 48"  | 27° 25' 25" | 20° 35' 35" | 8° 20' 20"  | 5° 11' 11" | 29° 48' 48" | 20° 16' 16" | 22° 38' 38" | 26° 56' 56" | 25° 45' 45" | 12° 25' 25" | 13° 58' 58" | F 10 |
| S 11 | 15 12 53 | 19° 49' 47" | 16° 5' 5"   | 7° 4' 4"    | 27° 51' 51" | 21° 15' 15" | 8° 31' 31"  | 5° 17' 17" | 29° 46' 46" | 20° 18' 18" | 22° 36' 36" | 26° 54' 54" | 25° 42' 42" | 12° 32' 32" | 14° 3' 3"   | S 11 |
| S 12 | 15 16 49 | 20° 47' 52" | 29° 58' 58" | 7° 15' 15"  | 28° 16' 16" | 21° 55' 55" | 8° 42' 42"  | 5° 23' 23" | 29° 44' 44" | 20° 19' 19" | 22° 35' 35" | 26° 55' 55" | 25° 39' 39" | 12° 39' 39" | 14° 7' 7"   | S 12 |
| M13  | 15 20 46 | 21° 45' 55" | 13° 11' 33" | 7° 21' 21"  | 28° 38' 38" | 22° 34' 34" | 8° 53' 53"  | 5° 30' 30" | 29° 43' 43" | 20° 20' 20" | 22° 33' 33" | 26° 56' 56" | 25° 36' 36" | 12° 45' 45" | 14° 11' 11" | M13  |
| T 14 | 15 24 42 | 22° 43' 57" | 26° 54' 54" | 7° 21' 21"  | 28° 59' 59" | 23° 14' 14" | 9° 4' 4"    | 5° 36' 36" | 29° 41' 41" | 20° 22' 22" | 22° 31' 31" | 26° 56' 56" | 25° 33' 33" | 12° 52' 52" | 14° 16' 16" | T 14 |
| W15  | 15 28 39 | 23° 41' 56" | 10° 1' 1"   | 7° 17' 17"  | 29° 18' 18" | 23° 54' 54" | 9° 15' 15"  | 5° 42' 42" | 29° 39' 39" | 20° 23' 23" | 22° 30' 30" | 26° 55' 55" | 25° 30' 30" | 12° 59' 59" | 14° 21' 21" | W15  |
| T 16 | 15 32 35 | 24° 39' 54" | 22° 55' 55" | 7° 7' 7"    | 29° 35' 35" | 24° 34' 34" | 9° 27' 27"  | 5° 49' 49" | 29° 37' 37" | 20° 24' 24" | 22° 28' 28" | 26° 52' 52" | 25° 26' 26" | 13° 5' 5"   | 14° 25' 25" | T 16 |
| F 17 | 15 36 32 | 25° 37' 50" | 5° 11' 38"  | 6° 54' 54"  | 29° 50' 50" | 25° 14' 14" | 9° 38' 38"  | 5° 55' 55" | 29° 35' 35" | 20° 26' 26" | 22° 26' 26" | 26° 47' 47" | 25° 23' 23" | 13° 12' 12" | 14° 30' 30" | F 17 |
| S 18 | 15 40 28 | 26° 35' 45" | 18° 11' 11" | 6° 36' 36"  | 0° 3' 3"    | 25° 54' 54" | 9° 50' 50"  | 6° 2' 2"   | 29° 34' 34" | 20° 27' 27" | 22° 25' 25" | 26° 39' 39" | 25° 20' 20" | 13° 19' 19" | 14° 35' 35" | S 18 |
| S 19 | 15 44 25 | 27° 33' 38" | 0° 7' 34"   | 6° 14' 14"  | 0° 14' 14"  | 26° 33' 33" | 10° 1' 1"   | 6° 9' 9"   | 29° 32' 32" | 20° 29' 29" | 22° 23' 23" | 26° 29' 29" | 25° 17' 17" | 13° 26' 26" | 14° 39' 39" | S 19 |
| M20  | 15 48 22 | 28° 31' 29" | 12° 48' 48" | 5° 49' 49"  | 0° 23' 23"  | 27° 13' 13" | 10° 13' 13" | 6° 15' 15" | 29° 30' 30" | 20° 30' 30" | 22° 21' 21" | 26° 18' 18" | 25° 14' 14" | 13° 32' 32" | 14° 44' 44" | M20  |
| T 21 | 15 52 18 | 29° 29' 20" | 24° 53' 53" | 5° 20' 20"  | 0° 29' 29"  | 27° 53' 53" | 10° 25' 25" | 6° 22' 22" | 29° 28' 28" | 20° 32' 32" | 22° 20' 20" | 26° 6' 6"   | 25° 11' 11" | 13° 39' 39" | 14° 49' 49" | T 21 |
| W22  | 15 56 15 | 0° 11' 27"  | 6° 51' 51"  | 4° 50' 50"  | 0° 34' 34"  | 28° 32' 32" | 10° 37' 37" | 6° 29' 29" | 29° 26' 26" | 20° 33' 33" | 22° 18' 18" | 25° 55' 55" | 25° 7' 7"   | 13° 46' 46" | 14° 54' 54" | W22  |
| T 23 | 16 0 11  | 1° 24' 56"  | 18° 44' 44" | 4° 17' 17"  | 0° 36' 36"  | 29° 12' 12" | 10° 49' 49" | 6° 36' 36" | 29° 24' 24" | 20° 35' 35" | 22° 16' 16" | 25° 46' 46" | 25° 4' 4"   | 13° 53' 53" | 14° 59' 59" | T 23 |
| F 24 | 16 4 8   | 2° 22' 42"  | 0° 35' 35"  | 3° 43' 43"  | 0° 35' 35"  | 29° 52' 52" | 11° 0' 0"   | 6° 43' 43" | 29° 22' 22" | 20° 37' 37" | 22° 15' 15" | 25° 39' 39" | 25° 1' 1"   | 13° 59' 59" | 15° 4' 4"   | F 24 |
| S 25 | 16 8 4   | 3° 20' 28"  | 12° 28' 28" | 3° 9' 9"    | 0° 33' 33"  | 0° 33' 33"  | 11° 13' 13" | 6° 50' 50" | 29° 19' 19" | 20° 38' 38" | 22° 13' 13" | 25° 35' 35" | 24° 58' 58" | 14° 6' 6"   | 15° 9' 9"   | S 25 |
| S 26 | 16 12 1  | 4° 18' 12"  | 24° 26' 26" | 2° 34' 34"  | 0° 27' 27"  | 1° 11' 11"  | 11° 25' 25" | 6° 57' 57" | 29° 17' 17" | 20° 40' 40" | 22° 11' 11" | 25° 33' 33" | 24° 55' 55" | 14° 13' 13" | 15° 14' 14" | S 26 |
| M27  | 16 15 57 | 5° 15' 55"  | 6° 35' 35"  | 2° 0' 0"    | 0° 20' 20"  | 1° 50' 50"  | 11° 37' 37" | 7° 4' 4"   | 29° 15' 15" | 20° 41' 41" | 22° 10' 10" | 25° 33' 33" | 24° 51' 51" | 14° 19' 19" | 15° 20' 20" | M27  |
| T 28 | 16 19 54 | 6° 13' 37"  | 19° 1' 1"   | 1° 27' 27"  | 0° 10' 10"  | 2° 30' 30"  | 11° 49' 49" | 7° 11' 11" | 29° 13' 13" | 20° 43' 43" | 22° 8' 8"   | 25° 33' 33" | 24° 48' 48" | 14° 26' 26" | 15° 25' 25" | T 28 |
| W29  | 16 23 51 | 7° 11' 17"  | 1° 47' 47"  | 0° 55' 55"  | 29° 11' 11" | 3° 9' 9"    | 12° 1' 1"   | 7° 18' 18" | 29° 11' 11" | 20° 45' 45" | 22° 6' 6"   | 25° 33' 33" | 24° 45' 45" | 14° 33' 33" | 15° 30' 30" | W29  |
| T 30 | 16 27 47 | 8° 8' 57"   | 14° 58' 58" | 0° 26' 26"  | 29° 43' 43" | 3° 48' 48"  | 12° 13' 13" | 7° 25' 25" | 29° 9' 9"   | 20° 47' 47" | 22° 5' 5"   | 25° 31' 31" | 24° 42' 42" | 14° 40' 40" | 15° 36' 36" | T 30 |
| F 31 | 16 31 44 | 9° 11' 36"  | 28° 38' 38" | 29° 59' 59" | 29° 11' 11" | 4° 28' 28"  | 12° 26' 26" | 7° 32' 32" | 29° 7' 7"   | 20° 48' 48" | 22° 11' 11" | 25° 11' 11" | 24° 39' 39" | 14° 46' 46" | 15° 41' 41" | F 31 |

| Day  | ☉     | ☾     |      | ♀     |      | ♀     |      | ♂     |      | ♂     |      | ♂     |      | ♂     |      | ♂     |      | ♂    |       | ♂    |      | ♂     |       | ♂    |     | ♂    |     | ♂    |     |
|------|-------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|------|------|-------|------|------|-------|-------|------|-----|------|-----|------|-----|
|      | decl  | decl  | lat  | decl  | lat  | decl  | lat  | decl  | lat  | decl  | lat  | decl  | lat  | decl  | lat  | decl  | lat  | decl | lat   | decl | lat  | decl  | lat   | decl | lat | decl | lat | decl | lat |
| W 1  | 14n50 | 2s 9  | 0n21 | 22n48 | 2n40 | 27n40 | 4n29 | 23n24 | 0n53 | 23n18 | 0n 4 | 22n41 | 0s39 | 23s35 | 0s10 | 21n15 | 0s40 | 3s20 | 15n36 | 0n56 | 1n30 | 17s58 | 16n15 | 6s31 |     |      |     |      |     |
| T 2  | 15 8  | 1n59  | 0s50 | 23 4  | 2 42 | 27 42 | 4 29 | 23 28 | 0 53 | 23 17 | 0 4  | 22 41 | 0 39 | 23 35 | 0 11 | 21 15 | 0 40 | 3 20 | 15 37 | 0 56 | 1 31 | 17 58 | 16 15 | 6 30 |     |      |     |      |     |
| F 3  | 15 26 | 6 9   | 2 1  | 23 16 | 2 42 | 27 45 | 4 30 | 23 33 | 0 54 | 23 17 | 0 4  | 22 41 | 0 39 | 23 35 | 0 11 | 21 15 | 0 40 | 3 19 | 15 37 | 0 57 | 1 32 | 17 57 | 16 15 | 6 30 |     |      |     |      |     |
| S 4  | 15 44 | 10 6  | 3 6  | 23 27 | 2 42 | 27 47 | 4 30 | 23 38 | 0 54 | 23 17 | 0 4  | 22 41 | 0 39 | 23 35 | 0 11 | 21 14 | 0 40 | 3 19 | 15 37 | 0 59 | 1 33 | 17 57 | 16 15 | 6 29 |     |      |     |      |     |
| S 5  | 16 1  | 13 33 | 4 1  | 23 35 | 2 41 | 27 48 | 4 30 | 23 42 | 0 55 | 23 16 | 0 4  | 22 41 | 0 39 | 23 35 | 0 11 | 21 14 | 0 40 | 3 18 | 15 37 | 1 1  | 1 35 | 17 57 | 16 15 | 6 29 |     |      |     |      |     |
| M 6  | 16 18 | 16 13 | 4 41 | 23 41 | 2 39 | 27 49 | 4 30 | 23 46 | 0 55 | 23 16 | 0 4  | 22 41 | 0 38 | 23 35 | 0 11 | 21 14 | 0 40 | 3 18 | 15 37 | 1 4  | 1 36 | 17 56 | 16 16 | 6 29 |     |      |     |      |     |
| T 7  | 16 35 | 17 51 | 5 3  | 23 44 | 2 35 | 27 50 | 4 29 | 23 50 | 0 55 | 23 15 | 0 4  | 22 41 | 0 38 | 23 35 | 0 11 | 21 14 | 0 40 | 3 18 | 15 37 | 1 7  | 1 37 | 17 56 | 16 16 | 6 28 |     |      |     |      |     |
| W 8  | 16 52 | 18 17 | 5 6  | 23 45 | 2 31 | 27 50 | 4 28 | 23 54 | 0 56 | 23 14 | 0 4  | 22 41 | 0 38 | 23 35 | 0 11 | 21 14 | 0 40 | 3 17 | 15 37 | 1 10 | 1 39 | 17 56 | 16 16 | 6 28 |     |      |     |      |     |
| T 9  | 17 8  | 17 30 | 4 48 | 23 44 | 2 25 | 27 50 | 4 27 | 23 57 | 0 56 | 23 14 | 0 5  | 22 40 | 0 38 | 23 35 | 0 11 | 21 14 | 0 39 | 3 17 | 15 37 | 1 12 | 1 40 | 17 55 | 16 16 | 6 27 |     |      |     |      |     |
| F 10 | 17 24 | 15 36 | 4 12 | 23 41 | 2 18 | 27 49 | 4 26 | 24 0  | 0 56 | 23 13 | 0 5  | 22 40 | 0 38 | 23 35 | 0 11 | 21 14 | 0 39 | 3 16 | 15 37 | 1 13 | 1 41 | 17 55 | 16 16 | 6 27 |     |      |     |      |     |
| S 11 | 17 40 | 12 47 | 3 21 | 23 36 | 2 10 | 27 48 | 4 24 | 24 3  | 0 56 | 23 13 | 0 5  | 22 40 | 0 38 | 23 35 | 0 11 | 21 13 | 0 39 | 3 16 | 15 37 | 1 14 | 1 42 | 17 55 | 16 16 | 6 26 |     |      |     |      |     |
| S 12 | 17 56 | 9 17  | 2 20 | 23 29 | 2 1  | 27 46 | 4 22 | 24 6  | 0 57 | 23 12 | 0 5  | 22 40 | 0 38 | 23 35 | 0 11 | 21 13 | 0 39 | 3 16 | 15 37 | 1 14 | 1 44 | 17 54 | 16 16 | 6 26 |     |      |     |      |     |
| M13  | 18 11 | 5 22  | 1 11 | 23 20 | 1 51 | 27 44 | 4 20 | 24 9  | 0 57 | 23 11 | 0 5  | 22 40 | 0 38 | 23 35 | 0 11 | 21 13 | 0 39 | 3 15 | 15 37 | 1 13 | 1 45 | 17 54 | 16 15 | 6 26 |     |      |     |      |     |
| T 14 | 18 26 | 1 14  | 0 0  | 23 8  | 1 39 | 27 41 | 4 17 | 24 11 | 0 57 | 23 11 | 0 5  | 22 40 | 0 37 | 23 35 | 0 11 | 21 13 | 0 39 | 3 15 | 15 37 | 1 13 | 1 46 | 17 54 | 16 15 | 6 25 |     |      |     |      |     |
| W15  | 18 40 | 2s54  | 1n10 | 22 55 | 1 27 | 27 39 | 4 14 | 24 14 | 0 58 | 23 10 | 0 5  | 22 40 | 0 37 | 23 35 | 0 11 | 21 13 | 0 39 | 3 15 | 15 37 | 1 13 | 1 47 | 17 53 | 16 15 | 6 25 |     |      |     |      |     |
| T 16 | 18 55 | 6 49  | 2 14 | 22 41 | 1 13 | 27 35 | 4 11 | 24 16 | 0 58 | 23 9  | 0 5  | 22 40 | 0 37 | 23 35 | 0 11 | 21 13 | 0 39 | 3 14 | 15 36 | 1 15 | 1 49 | 17 53 | 16 15 | 6 25 |     |      |     |      |     |
| F 17 | 19 8  | 10 22 | 3 11 | 22 24 | 0 59 | 27 32 | 4 7  | 24 17 | 0 58 | 23 9  | 0 5  | 22 39 | 0 37 | 23 35 | 0 11 | 21 12 | 0 39 | 3 14 | 15 36 | 1 17 | 1 50 | 17 52 | 16 15 | 6 24 |     |      |     |      |     |
| S 18 | 19 22 | 13 24 | 3 58 | 22 6  | 0 44 | 27 27 | 4 3  | 24 19 | 0 59 | 23 8  | 0 5  | 22 39 | 0 37 | 23 35 | 0 11 | 21 12 | 0 39 | 3 14 | 15 36 | 1 20 | 1 51 | 17 52 | 16 15 | 6 24 |     |      |     |      |     |
| S 19 | 19 35 | 15 47 | 4 33 | 21 47 | 0 28 | 27 23 | 3 58 | 24 20 | 0 59 | 23 7  | 0 5  | 22 39 | 0 37 | 23 35 | 0 11 | 21 12 | 0 39 | 3 13 | 15 36 | 1 24 | 1 52 | 17 52 | 16 15 | 6 23 |     |      |     |      |     |
| M20  | 19 48 | 17 26 | 4 55 | 21 26 | 0 11 | 27 18 | 3 53 | 24 22 | 0 59 | 23 6  | 0 6  | 22 39 | 0 37 | 23 35 | 0 11 | 21 12 | 0 39 | 3 13 | 15 36 | 1 28 | 1 54 | 17 51 | 16 15 | 6 23 |     |      |     |      |     |
| T 21 | 20 1  | 18 16 | 5 3  | 21 4  | 0s 6 | 27 12 | 3 48 | 24 23 | 0 59 | 23 6  | 0 6  | 22 39 | 0 37 | 23 35 | 0 11 | 21 12 | 0 39 | 3 13 | 15 36 | 1 33 | 1 55 | 17 51 | 16 15 | 6 23 |     |      |     |      |     |
| W22  | 20 13 | 18 17 | 4 58 | 20 41 | 0 23 | 27 6  | 3 42 | 24 24 | 1 0  | 23 5  | 0 6  | 22 38 | 0 36 | 23 35 | 0 11 | 21 11 | 0 39 | 3 13 | 15 36 | 1 37 | 1 56 | 17 51 | 16 14 | 6 22 |     |      |     |      |     |
| T 23 | 20 25 | 17 29 | 4 39 | 20 18 | 0 41 | 27 0  | 3 36 | 24 24 | 1 0  | 23 4  | 0 6  | 22 38 | 0 36 | 23 35 | 0 11 | 21 11 | 0 39 | 3 12 | 15 36 | 1 41 | 1 57 | 17 50 | 16 14 | 6 22 |     |      |     |      |     |
| F 24 | 20 36 | 15 56 | 4 9  | 19 55 | 0 58 | 26 53 | 3 29 | 24 25 | 1 0  | 23 3  | 0 6  | 22 38 | 0 36 | 23 35 | 0 11 | 21 11 | 0 39 | 3 12 | 15 36 | 1 43 | 1 59 | 17 50 | 16 14 | 6 22 |     |      |     |      |     |
| S 25 | 20 48 | 13 43 | 3 28 | 19 31 | 1 16 | 26 46 | 3 22 | 24 25 | 1 0  | 23 2  | 0 6  | 22 38 | 0 36 | 23 35 | 0 11 | 21 11 | 0 39 | 3 12 | 15 35 | 1 45 | 2 0  | 17 49 | 16 14 | 6 21 |     |      |     |      |     |
| S 26 | 20 58 | 10 53 | 2 37 | 19 7  | 1 33 | 26 38 | 3 14 | 24 25 | 1 1  | 23 1  | 0 6  | 22 38 | 0 36 | 23 35 | 0 11 | 21 11 | 0 39 | 3 12 | 15 35 | 1 46 | 2 1  | 17 49 | 16 13 | 6 21 |     |      |     |      |     |
| M27  | 21 9  | 7 33  | 1 39 | 18 44 | 1 50 | 26 30 | 3 6  | 24 24 | 1 1  | 23 0  | 0 6  | 22 37 | 0 36 | 23 35 | 0 11 | 21 10 | 0 39 | 3 11 | 15 35 | 1 46 | 2 2  | 17 49 | 16 13 | 6 21 |     |      |     |      |     |
| T 28 | 21 19 | 3 49  | 0 35 | 18 22 | 2 6  | 26 21 | 2 57 | 24 24 | 1 1  | 22 59 | 0 6  | 22 37 | 0 36 | 23 35 | 0 11 | 21 10 | 0 39 | 3 11 | 15 35 | 1 46 | 2 4  | 17 48 | 16 13 | 6 20 |     |      |     |      |     |
| W29  | 21 29 | 0n12  | 0s33 | 18 1  | 2 26 | 26 12 | 2 48 | 24 23 | 1 1  | 22 58 | 0 6  | 22 37 | 0 36 | 23 35 | 0 11 | 21 10 | 0 39 | 3 11 | 15 35 | 1 46 | 2 5  | 17 48 | 16 13 | 6 20 |     |      |     |      |     |
| T 30 | 21 38 | 4 20  | 1 41 | 17 40 | 2 31 | 26 2  | 2 38 | 24 23 | 1 2  | 22 57 | 0 6  | 22 36 | 0 35 | 23 35 | 0 11 | 21 10 | 0 39 | 3 11 | 15 35 | 1 47 | 2 6  | 17 47 | 16 12 | 6 20 |     |      |     |      |     |
| F 31 | 21n47 | 8n23  | 2s46 | 17n22 | 2s49 | 25n52 | 2n28 | 24n22 | 1n 2 | 22n56 | 0n 7 | 22n36 | 0s35 | 23s35 | 0s11 | 21n 9 | 0s39 | 3s11 | 15n34 | 1n48 | 2n 7 | 17s47 | 16n12 | 6s20 |     |      |     |      |     |



# ASTRODIENST EPHEMERIS for the year 2239

## geocentric

JUNE 2239

00:00 UT

| Day  | Sid.t    | ☉         | ☽      | ♀      | ♂      | ♂     | ♂     | ♂     | ♂      | ♂     | ♂      | ♂      | ♂      | ♂     | ♂     | Day  |
|------|----------|-----------|--------|--------|--------|-------|-------|-------|--------|-------|--------|--------|--------|-------|-------|------|
| S 1  | 16 35 40 | 10II 4'14 | 12845  | 29°R36 | 29°R 6 | 5☾ 7  | 12☾38 | 7☾39  | 29°R 4 | 20☾50 | 22°R 2 | 25°R21 | 24☾36  | 14☾53 | 15☾46 | S 1  |
| S 2  | 16 39 37 | 11° 1'51  | 27°19  | 29816  | 28II44 | 5°47  | 12°51 | 7°47  | 29816  | 20°52 | 22II 0 | 25II13 | 24°32  | 15° 0 | 15°52 | S 2  |
| M 3  | 16 43 33 | 11°59'27  | 12II13 | 28°59  | 28°21  | 6°26  | 13° 3 | 7°54  | 28°59  | 20°54 | 21°59  | 25° 3  | 24°29  | 15° 6 | 15°57 | M 3  |
| T 4  | 16 47 30 | 12°57'02  | 27°18  | 28°47  | 27°55  | 7° 5  | 13°16 | 8° 1  | 28°57  | 20°56 | 21°57  | 24°52  | 24°26  | 15°13 | 16° 3 | T 4  |
| W 5  | 16 51 26 | 13°54'36  | 12☾24  | 28°38  | 27°27  | 7°45  | 13°28 | 8° 9  | 28°55  | 20°57 | 21°55  | 24°42  | 24°23  | 15°20 | 16° 9 | W 5  |
| T 6  | 16 55 23 | 14°52'09  | 27°22  | 28°D34 | 26°57  | 8°24  | 13°41 | 8°16  | 28°52  | 20°59 | 21°54  | 24°34  | 24°20  | 15°27 | 16°14 | T 6  |
| F 7  | 16 59 20 | 15°49'40  | 12☾ 3  | 28°34  | 26°26  | 9° 3  | 13°54 | 8°23  | 28°50  | 21° 1 | 21°52  | 24°28  | 24°17  | 15°33 | 16°20 | F 7  |
| S 8  | 17 3 16  | 16°47'10  | 26°22  | 28°39  | 25°53  | 9°42  | 14° 6 | 8°31  | 28°48  | 21° 3 | 21°51  | 24°25  | 24°13  | 15°40 | 16°26 | S 8  |
| S 9  | 17 7 13  | 17°44'38  | 10II18 | 28°48  | 25°18  | 10°22 | 14°19 | 8°38  | 28°45  | 21° 5 | 21°49  | 24°24  | 24°10  | 15°47 | 16°31 | S 9  |
| M10  | 17 11 9  | 18°42'06  | 23°51  | 29° 2  | 24°43  | 11° 1 | 14°32 | 8°46  | 28°43  | 21° 7 | 21°48  | 24°24  | 24° 7  | 15°53 | 16°37 | M10  |
| T 11 | 17 15 6  | 19°39'32  | 7II 4  | 29°20  | 24° 6  | 11°40 | 14°45 | 8°53  | 28°40  | 21° 9 | 21°47  | 24°24  | 24° 4  | 16° 0 | 16°43 | T 11 |
| W12  | 17 19 2  | 20°36'56  | 19°58  | 29°43  | 23°29  | 12°19 | 14°58 | 9° 1  | 28°38  | 21°11 | 21°45  | 24°22  | 24° 1  | 16° 7 | 16°49 | W12  |
| T 13 | 17 22 59 | 21°34'20  | 2II38  | 0II10  | 22°52  | 12°58 | 15°11 | 9° 8  | 28°36  | 21°13 | 21°44  | 24°18  | 23°57  | 16°14 | 16°55 | T 13 |
| F 14 | 17 26 55 | 22°31'43  | 15° 6  | 0°41   | 22°14  | 13°37 | 15°24 | 9°16  | 28°33  | 21°15 | 21°42  | 24°11  | 23°54  | 16°20 | 17° 0 | F 14 |
| S 15 | 17 30 52 | 23°29'05  | 27°24  | 1°17   | 21°37  | 14°16 | 15°37 | 9°24  | 28°31  | 21°17 | 21°41  | 24° 2  | 23°51  | 16°27 | 17° 6 | S 15 |
| S 16 | 17 34 49 | 24°26'26  | 9834   | 1°56   | 20°59  | 14°55 | 15°50 | 9°31  | 28°28  | 21°19 | 21°40  | 23°50  | 23°48  | 16°34 | 17°12 | S 16 |
| M17  | 17 38 45 | 25°23'46  | 21°38  | 2°40   | 20°22  | 15°34 | 16° 3 | 9°39  | 28°26  | 21°21 | 21°38  | 23°36  | 23°45  | 16°40 | 17°18 | M17  |
| T 18 | 17 42 42 | 26°21'06  | 3336   | 3°27   | 19°46  | 16°13 | 16°16 | 9°46  | 28°23  | 21°23 | 21°37  | 23°22  | 23°42  | 16°47 | 17°24 | T 18 |
| W19  | 17 46 38 | 27°18'25  | 15°30  | 4°19   | 19°11  | 16°52 | 16°29 | 9°54  | 28°21  | 21°25 | 21°36  | 23° 9  | 23°38  | 16°54 | 17°30 | W19  |
| T 20 | 17 50 35 | 28°15'43  | 27°22  | 5°14   | 18°37  | 17°31 | 16°42 | 10° 2 | 28°18  | 21°27 | 21°34  | 22°58  | 23°35  | 17° 1 | 17°36 | T 20 |
| F 21 | 17 54 31 | 29°13'01  | 9812   | 6°13   | 18° 5  | 18°10 | 16°55 | 10°10 | 28°16  | 21°29 | 21°33  | 22°49  | 23°32  | 17° 7 | 17°42 | F 21 |
| S 22 | 17 58 28 | 0☾10'18   | 21° 5  | 7°16   | 17°34  | 18°49 | 17° 9 | 10°17 | 28°14  | 21°31 | 21°32  | 22°44  | 23°29  | 17°14 | 17°49 | S 22 |
| S 23 | 18 2 24  | 1° 7'35   | 3II 4  | 8°22   | 17° 5  | 19°28 | 17°22 | 10°25 | 28°11  | 21°33 | 21°31  | 22°40  | 23°26  | 17°21 | 17°55 | S 23 |
| M24  | 18 6 21  | 2° 4'51   | 15°13  | 9°32   | 16°37  | 20° 7 | 17°35 | 10°33 | 28° 9  | 21°35 | 21°30  | 22°39  | 23°23  | 17°27 | 18° 1 | M24  |
| T 25 | 18 10 18 | 3° 2'08   | 27°36  | 10°45  | 16°12  | 20°45 | 17°48 | 10°41 | 28° 6  | 21°38 | 21°28  | 22°39  | 23°19  | 17°34 | 18° 7 | T 25 |
| W26  | 18 14 14 | 3°59'24   | 10°Y19 | 12° 2  | 15°49  | 21°24 | 18° 2 | 10°48 | 28° 4  | 21°40 | 21°27  | 22°39  | 23°16  | 17°41 | 18°13 | W26  |
| T 27 | 18 18 11 | 4°56'40   | 23°27  | 13°22  | 15°28  | 22° 3 | 18°15 | 10°56 | 28° 1  | 21°42 | 21°26  | 22°38  | 23°13  | 17°47 | 18°19 | T 27 |
| F 28 | 18 22 7  | 5°53'56   | 78 2   | 14°46  | 15°10  | 22°42 | 18°28 | 11° 4 | 27°59  | 21°44 | 21°25  | 22°35  | 23°10  | 17°54 | 18°26 | F 28 |
| S 29 | 18 26 4  | 6°51'12   | 21° 7  | 16°13  | 14°53  | 23°21 | 18°42 | 11°12 | 27°56  | 21°46 | 21°24  | 22°29  | 23° 7  | 18° 1 | 18°32 | S 29 |
| S 30 | 18 30 0  | 7☾48'27   | 5II41  | 17II43 | 14II39 | 23☾59 | 18☾55 | 11☾19 | 27854  | 21☾48 | 21II23 | 22II21 | 23II 3 | 18☾ 8 | 18☾38 | S 30 |

| Day  | ☉     | ☾     |      | ♀     |      | ♀     |      | ♂     |      | ♂     |      | ♂     |      | ♂     |      | ♂     |      | ♂    |       | ♂    |      | ♂     |       | ♂    |     | ♂    |     | ♂    |     |
|------|-------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|------|------|-------|------|------|-------|-------|------|-----|------|-----|------|-----|
|      | decl  | decl  | lat  | decl  | lat  | decl  | lat  | decl  | lat  | decl  | lat  | decl  | lat  | decl  | lat  | decl  | lat  | decl | lat   | decl | lat  | decl  | lat   | decl | lat | decl | lat | decl | lat |
| S 1  | 21n56 | 12n 6 | 3s43 | 17n 4 | 3s 2 | 25n41 | 2n17 | 24n20 | 1n 2 | 22n55 | 0n 7 | 22n36 | 0s35 | 23s35 | 0s11 | 21n 9 | 0s39 | 3s10 | 15n34 | 1n51 | 2n 9 | 17s47 | 16n12 | 6s19 |     |      |     |      |     |
| S 2  | 22 4  | 15 12 | 4 27 | 16 49 | 3 13 | 25 30 | 2 6  | 24 19 | 1 2  | 22 54 | 0 7  | 22 36 | 0 35 | 23 35 | 0 11 | 21 9  | 0 39 | 3 10 | 15 34 | 1 54 | 2 10 | 17 46 | 16 11 | 6 19 |     |      |     |      |     |
| M 3  | 22 12 | 17 22 | 4 54 | 16 36 | 3 24 | 25 18 | 1 54 | 24 17 | 1 3  | 22 53 | 0 7  | 22 35 | 0 35 | 23 35 | 0 11 | 21 9  | 0 39 | 3 10 | 15 34 | 1 58 | 2 11 | 17 46 | 16 11 | 6 19 |     |      |     |      |     |
| T 4  | 22 19 | 18 22 | 5 1  | 16 24 | 3 33 | 25 5  | 1 42 | 24 16 | 1 3  | 22 52 | 0 7  | 22 35 | 0 35 | 23 35 | 0 11 | 21 8  | 0 39 | 3 10 | 15 33 | 2 2  | 2 12 | 17 45 | 16 11 | 6 19 |     |      |     |      |     |
| W 5  | 22 26 | 18 4  | 4 47 | 16 15 | 3 40 | 24 52 | 1 30 | 24 14 | 1 3  | 22 50 | 0 7  | 22 35 | 0 35 | 23 35 | 0 11 | 21 8  | 0 39 | 3 10 | 15 33 | 2 6  | 2 14 | 17 45 | 16 10 | 6 18 |     |      |     |      |     |
| T 6  | 22 33 | 16 31 | 4 14 | 16 7  | 3 47 | 24 39 | 1 17 | 24 11 | 1 3  | 22 49 | 0 7  | 22 34 | 0 35 | 23 35 | 0 11 | 21 8  | 0 39 | 3 10 | 15 33 | 2 9  | 2 15 | 17 45 | 16 10 | 6 18 |     |      |     |      |     |
| F 7  | 22 39 | 13 53 | 3 24 | 16 2  | 3 53 | 24 25 | 1 4  | 24 9  | 1 3  | 22 48 | 0 7  | 22 34 | 0 35 | 23 35 | 0 11 | 21 8  | 0 39 | 3 10 | 15 33 | 2 12 | 2 16 | 17 44 | 16 9  | 6 18 |     |      |     |      |     |
| S 8  | 22 45 | 10 29 | 2 22 | 15 59 | 3 57 | 24 11 | 0 50 | 24 6  | 1 4  | 22 47 | 0 7  | 22 34 | 0 34 | 23 35 | 0 11 | 21 7  | 0 39 | 3 10 | 15 32 | 2 13 | 2 18 | 17 44 | 16 9  | 6 18 |     |      |     |      |     |
| S 9  | 22 50 | 6 33  | 1 14 | 15 58 | 4 0  | 23 56 | 0 36 | 24 4  | 1 4  | 22 46 | 0 7  | 22 33 | 0 34 | 23 35 | 0 11 | 21 7  | 0 39 | 3 10 | 15 32 | 2 13 | 2 19 | 17 43 | 16 9  | 6 17 |     |      |     |      |     |
| M10  | 22 56 | 2 24  | 0 3  | 15 59 | 4 2  | 23 41 | 0 23 | 24 1  | 1 4  | 22 44 | 0 7  | 22 33 | 0 34 | 23 35 | 0 11 | 21 7  | 0 39 | 3 9  | 15 32 | 2 13 | 2 20 | 17 43 | 16 8  | 6 17 |     |      |     |      |     |
| T 11 | 23 0  | 1s47  | 1n 6 | 16 1  | 4 3  | 23 25 | 0 8  | 23 57 | 1 4  | 22 43 | 0 8  | 22 32 | 0 34 | 23 35 | 0 11 | 21 7  | 0 39 | 3 9  | 15 31 | 2 13 | 2 21 | 17 42 | 16 8  | 6 17 |     |      |     |      |     |
| W12  | 23 4  | 5 47  | 2 11 | 16 6  | 4 3  | 23 9  | 0s 6 | 23 54 | 1 4  | 22 42 | 0 8  | 22 32 | 0 34 | 23 35 | 0 11 | 21 6  | 0 39 | 3 9  | 15 31 | 2 14 | 2 23 | 17 42 | 16 7  | 6 17 |     |      |     |      |     |
| T 13 | 23 8  | 9 26  | 3 7  | 16 13 | 4 2  | 22 53 | 0 20 | 23 51 | 1 4  | 22 40 | 0 8  | 22 32 | 0 34 | 23 35 | 0 11 | 21 6  | 0 39 | 3 9  | 15 31 | 2 16 | 2 24 | 17 41 | 16 7  | 6 17 |     |      |     |      |     |
| F 14 | 23 12 | 12 37 | 3 54 | 16 21 | 4 0  | 22 37 | 0 34 | 23 47 | 1 5  | 22 39 | 0 8  | 22 31 | 0 34 | 23 35 | 0 11 | 21 6  | 0 39 | 3 9  | 15 30 | 2 18 | 2 25 | 17 41 | 16 6  | 6 16 |     |      |     |      |     |
| S 15 | 23 15 | 15 11 | 4 29 | 16 31 | 3 57 | 22 20 | 0 48 | 23 43 | 1 5  | 22 37 | 0 8  | 22 31 | 0 34 | 23 35 | 0 11 | 21 5  | 0 39 | 3 9  | 15 30 | 2 22 | 2 26 | 17 41 | 16 6  | 6 16 |     |      |     |      |     |
| S 16 | 23 17 | 17 4  | 4 51 | 16 43 | 3 53 | 22 4  | 1 2  | 23 39 | 1 5  | 22 36 | 0 8  | 22 30 | 0 34 | 23 35 | 0 11 | 21 5  | 0 39 | 3 9  | 15 30 | 2 27 | 2 28 | 17 40 | 16 5  | 6 16 |     |      |     |      |     |
| M17  | 23 20 | 18 10 | 4 59 | 16 56 | 3 49 | 21 48 | 1 16 | 23 35 | 1 5  | 22 35 | 0 8  | 22 30 | 0 34 | 23 35 | 0 11 | 21 5  | 0 39 | 3 9  | 15 29 | 2 32 | 2 29 | 17 40 | 16 4  | 6 16 |     |      |     |      |     |
| T 18 | 23 21 | 18 26 | 4 55 | 17 10 | 3 43 | 21 31 | 1 30 | 23 30 | 1 5  | 22 33 | 0 8  | 22 29 | 0 33 | 23 35 | 0 11 | 21 5  | 0 38 | 3 9  | 15 29 | 2 38 | 2 30 | 17 39 | 16 4  | 6 16 |     |      |     |      |     |
| W19  | 23 23 | 17 55 | 4 38 | 17 25 | 3 37 | 21 15 | 1 43 | 23 25 | 1 5  | 22 32 | 0 8  | 22 29 | 0 33 | 23 35 | 0 11 | 21 4  | 0 38 | 3 9  | 15 29 | 2 43 | 2 31 | 17 39 | 16 3  | 6 16 |     |      |     |      |     |
| T 20 | 23 24 | 16 36 | 4 8  | 17 42 | 3 30 | 21 0  | 1 56 | 23 21 | 1 6  | 22 30 | 0 8  | 22 28 | 0 33 | 23 35 | 0 11 | 21 4  | 0 38 | 3 10 | 15 28 | 2 47 | 2 33 | 17 38 | 16 3  | 6 15 |     |      |     |      |     |
| F 21 | 23 24 | 14 35 | 3 28 | 17 59 | 3 23 | 20 44 | 2 8  | 23 16 | 1 6  | 22 28 | 0 8  | 22 28 | 0 33 | 23 35 | 0 11 | 21 4  | 0 38 | 3 10 | 15 28 | 2 51 | 2 34 | 17 38 | 16 2  | 6 15 |     |      |     |      |     |
| S 22 | 23 24 | 11 56 | 2 39 | 18 17 | 3 15 | 20 29 | 2 21 | 23 10 | 1 6  | 22 27 | 0 8  | 22 27 | 0 33 | 23 35 | 0 11 | 21 3  | 0 38 | 3 10 | 15 28 | 2 53 | 2 35 | 17 37 | 16 1  | 6 15 |     |      |     |      |     |
| S 23 | 23 24 | 8 47  | 1 42 | 18 36 | 3 6  | 20 15 | 2 32 | 23 5  | 1 6  | 22 25 | 0 9  | 22 27 | 0 33 | 23 35 | 0 11 | 21 3  | 0 38 | 3 10 | 15 27 | 2 54 | 2 36 | 17 37 | 16 1  | 6 15 |     |      |     |      |     |
| M24  | 23 23 | 5 13  | 0 39 | 18 56 | 2 57 | 20 1  | 2 44 | 23 0  | 1 6  | 22 24 | 0 9  | 22 26 | 0 33 | 23 35 | 0 11 | 21 3  | 0 38 | 3 10 | 15 27 | 2 55 | 2 38 | 17 36 | 16 0  | 6 15 |     |      |     |      |     |
| T 25 | 23 22 | 1 21  | 0s26 | 19 16 | 2 48 | 19 48 | 2 55 | 22 54 | 1 6  | 22 22 | 0 9  | 22 26 | 0 33 | 23 35 | 0 11 | 21 2  | 0 38 | 3 10 | 15 26 | 2 55 | 2 39 | 17 36 | 15 59 | 6 15 |     |      |     |      |     |
| W26  | 23 21 | 2n40  | 1 32 | 19 36 | 2 37 | 19 35 | 3 5  | 22 48 | 1 6  | 22 20 | 0 9  | 22 25 | 0 33 | 23 35 | 0 11 | 21 2  | 0 38 | 3 10 | 15 26 | 2 55 | 2 40 | 17 35 | 15 59 | 6 15 |     |      |     |      |     |
| T 27 | 23 19 | 6 41  | 2 36 | 19 56 | 2 27 | 19 23 | 3 15 | 22 42 | 1 7  | 22 19 | 0 9  | 22 25 | 0 33 | 23 35 | 0 11 | 21 2  | 0 38 | 3 10 | 15 26 | 2 55 | 2 41 | 17 35 | 15 58 | 6 15 |     |      |     |      |     |
| F 28 | 23 16 | 10 30 | 3 32 | 20 17 | 2 16 | 19 12 | 3 24 | 22 36 | 1 7  | 22 17 | 0 9  | 22 24 | 0 33 | 23 35 | 0 11 | 21 1  | 0 38 | 3 10 | 15 25 | 2 57 | 2 43 | 17 34 | 15 57 | 6 14 |     |      |     |      |     |
| S 29 | 23 14 | 13 51 | 4 18 | 20 37 | 2 5  | 19 2  | 3 33 | 22 29 | 1 7  | 22 15 | 0 9  | 22 24 | 0 32 | 23 35 | 0 11 | 21 1  | 0 38 | 3 11 | 15 25 | 2 59 | 2 44 | 17 34 | 15 56 | 6 14 |     |      |     |      |     |
| S 30 | 23n11 | 16n28 | 4s49 | 20n57 | 1s54 | 18n52 | 3s41 | 22n23 | 1n 7 | 22n13 | 0n 9 | 22n23 | 0s32 | 23s35 | 0s11 | 21n 1 | 0s38 | 3s11 | 15n24 | 3n 2 | 2n45 | 17s33 | 15n56 | 6s14 |     |      |     |      |     |

## ASTRODIENST EPHEMERIS for the year 2239

geocentric

JULY 2239

00:00 UT

| Day  | Sid.t    | ☉         | ☽        | ♀        | ♂        | ♂        | ♂        | ♂        | ♂        | ♂        | ♂        | ♂        | ♂        | ♂        | ♂        | Day  |
|------|----------|-----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|------|
| M 1  | 18 33 57 | 8°45'43   | 20°11'38 | 19°11'17 | 14°R28   | 24°53'38 | 19°52'09 | 11°52'27 | 27°R52   | 21°52'50 | 21°R22   | 22°R12   | 23°11'00 | 18°52'14 | 18°52'44 | M 1  |
| T 2  | 18 37 53 | 9°42'59   | 5°52'50  | 20°54'14 | 14°11'19 | 25°17'25 | 19°22'22 | 11°35'27 | 27°R49   | 21°53'21 | 21°R21   | 22°11'02 | 22°57'18 | 18°21'18 | 18°51'18 | T 2  |
| W 3  | 18 41 50 | 10°40'14  | 21°0'8   | 22°34'14 | 14°12'25 | 25°56'19 | 19°36'36 | 11°43'27 | 27°47'21 | 21°55'21 | 21°20'21 | 21°52'22 | 22°54'18 | 18°28'18 | 18°57'18 | W 3  |
| T 4  | 18 45 47 | 11°37'29  | 6°52'19  | 24°17'14 | 14°8'26  | 26°34'19 | 19°49'49 | 11°51'27 | 27°45'21 | 21°57'21 | 21°19'21 | 21°44'22 | 22°51'18 | 18°34'19 | 19°3'19  | T 4  |
| F 5  | 18 49 43 | 12°34'44  | 21°14'26 | 26°3'14  | 14°D 6   | 27°13'20 | 20°2'11  | 11°58'27 | 27°42'21 | 21°59'21 | 21°18'21 | 21°39'22 | 22°48'18 | 18°41'19 | 19°9'19  | F 5  |
| S 6  | 18 53 40 | 13°31'58  | 5°11'47  | 27°52'14 | 14°6'27  | 27°52'20 | 20°16'12 | 12°6'27  | 27°40'22 | 21°18'21 | 21°36'22 | 22°44'18 | 18°48'19 | 19°16'19 | 19°16'19 | S 6  |
| S 7  | 18 57 36 | 14°29'12  | 19°52'29 | 29°44'14 | 14°9'28  | 28°30'20 | 20°29'12 | 12°14'27 | 27°37'22 | 21°17'21 | 21°D35   | 22°41'18 | 18°55'19 | 19°22'19 | 19°22'19 | S 7  |
| M 8  | 19 1 33  | 15°26'25  | 3°42'31  | 18°39'14 | 14°13'29 | 29°9'20  | 20°43'12 | 12°22'27 | 27°35'22 | 21°16'21 | 21°35'22 | 22°38'19 | 19°1'19  | 19°28'19 | 19°28'19 | M 8  |
| T 9  | 19 5 29  | 16°23'38  | 16°45'3  | 3°36'14  | 14°20'29 | 29°47'20 | 20°56'12 | 12°30'27 | 27°33'22 | 21°15'21 | 21°R35   | 22°35'19 | 19°8'19  | 19°35'19 | 19°35'19 | T 9  |
| W10  | 19 9 26  | 17°20'51  | 29°37'5  | 5°36'14  | 14°29'0  | 0°12'26  | 21°10'12 | 12°38'27 | 27°31'22 | 21°10'21 | 21°14'21 | 21°35'22 | 19°15'19 | 19°41'19 | 19°41'19 | W10  |
| T 11 | 19 13 22 | 18°18'04  | 12°11'11 | 7°38'14  | 14°41'1  | 1°5'21   | 21°23'12 | 12°45'27 | 27°28'22 | 21°13'21 | 21°14'21 | 21°32'22 | 19°21'19 | 19°48'19 | 19°48'19 | T 11 |
| F 12 | 19 17 19 | 19°15'16  | 24°31'9  | 9°41'14  | 14°54'1  | 1°43'21  | 21°37'12 | 12°53'27 | 27°26'22 | 21°13'21 | 21°27'22 | 22°25'19 | 19°28'19 | 19°54'19 | 19°54'19 | F 12 |
| S 13 | 19 21 16 | 20°12'28  | 6°47'40  | 11°47'15 | 15°9'2   | 2°22'21  | 21°50'13 | 1°9'27   | 27°24'22 | 21°12'21 | 21°20'22 | 22°22'19 | 19°35'19 | 20°0'19  | 20°0'19  | S 13 |
| S 14 | 19 25 12 | 21°9'41   | 18°42'13 | 13°53'15 | 15°26'3  | 3°0'22   | 22°4'13  | 1°9'27   | 27°22'22 | 21°12'21 | 21°10'22 | 22°19'19 | 19°42'19 | 20°7'19  | 20°7'19  | S 14 |
| M15  | 19 29 9  | 22°6'53   | 0°38'16  | 1°15'45  | 15°45'3  | 3°39'22  | 22°17'13 | 1°16'27  | 27°20'22 | 21°11'21 | 21°0'22  | 22°16'19 | 19°48'19 | 20°13'19 | 20°13'19 | M15  |
| T 16 | 19 33 5  | 23°4'05   | 12°31'18 | 10°16'6  | 16°6'4   | 4°17'22  | 22°31'13 | 1°24'27  | 27°17'22 | 21°11'21 | 20°49'22 | 22°13'19 | 19°55'19 | 20°19'19 | 20°19'19 | T 16 |
| W17  | 19 37 2  | 24°1'18   | 24°23'20 | 10°19'16 | 16°29'4  | 4°56'22  | 22°44'13 | 1°32'27  | 27°15'22 | 21°10'21 | 20°39'22 | 22°9'19  | 20°2'19  | 20°26'19 | 20°26'19 | W17  |
| T 18 | 19 40 58 | 24°58'30  | 6°15'22  | 22°29'16 | 16°53'5  | 5°34'22  | 22°58'13 | 1°40'27  | 27°13'22 | 21°10'21 | 20°30'22 | 22°6'19  | 20°8'19  | 20°32'19 | 20°32'19 | T 18 |
| F 19 | 19 44 55 | 25°55'43  | 18°8'24  | 24°38'17 | 17°19'6  | 6°13'23  | 23°11'13 | 1°47'27  | 27°11'22 | 21°9'21  | 20°23'22 | 22°3'19  | 20°15'19 | 20°38'19 | 20°38'19 | F 19 |
| S 20 | 19 48 52 | 26°52'57  | 0°11'6   | 26°47'17 | 17°46'6  | 6°51'23  | 23°25'13 | 1°55'27  | 27°9'22  | 21°9'21  | 20°19'22 | 22°0'19  | 20°22'19 | 20°45'19 | 20°45'19 | S 20 |
| S 21 | 19 52 48 | 27°50'11  | 12°10'28 | 18°55'18 | 15°15'7  | 7°30'23  | 23°38'14 | 1°3'27   | 27°7'22  | 21°8'21  | 20°17'22 | 21°57'19 | 20°28'19 | 20°51'19 | 20°51'19 | S 21 |
| M22  | 19 56 45 | 28°47'25  | 24°23'1  | 18°46'8  | 15°46'8  | 8°8'23   | 23°52'14 | 1°10'27  | 27°5'22  | 21°8'21  | 20°D16   | 21°54'19 | 20°35'19 | 20°57'19 | 20°57'19 | M22  |
| T 23 | 20 0 41  | 29°44'40  | 6°50'3   | 19°18'3  | 15°18'3  | 8°46'24  | 24°5'14  | 1°18'27  | 27°3'22  | 21°7'21  | 20°17'22 | 21°50'19 | 20°42'19 | 21°4'19  | 21°4'19  | T 23 |
| W24  | 20 4 38  | 0°41'55   | 19°34'5  | 19°51'9  | 15°51'9  | 9°25'24  | 24°19'14 | 1°26'27  | 27°1'22  | 21°7'21  | 20°18'22 | 21°47'19 | 20°49'19 | 21°10'19 | 21°10'19 | W24  |
| T 25 | 20 8 34  | 1°39'12   | 2°39'7   | 19°20'25 | 10°3'10  | 3'24     | 24°32'14 | 1°33'26  | 26°59'22 | 21°7'21  | 20°R19   | 21°44'19 | 20°55'19 | 21°16'19 | 21°16'19 | T 25 |
| F 26 | 20 12 31 | 2°36'29   | 16°9'9   | 9°21'21  | 1°1'10   | 42'24    | 24°46'14 | 1°41'26  | 26°58'22 | 21°7'21  | 20°18'22 | 21°41'19 | 21°2'19  | 21°23'19 | 21°23'19 | F 26 |
| S 27 | 20 16 27 | 3°33'47   | 0°11'6   | 11°23'21 | 1°38'11  | 20'11    | 24°59'14 | 1°48'26  | 26°56'22 | 21°6'21  | 20°15'22 | 21°38'19 | 21°9'19  | 21°29'19 | 21°29'19 | S 27 |
| S 28 | 20 20 24 | 4°31'06   | 14°29'13 | 22°16'22 | 11°58'11 | 58'25    | 25°12'14 | 1°56'26  | 26°54'22 | 21°6'21  | 20°11'22 | 21°34'19 | 21°15'19 | 21°35'19 | 21°35'19 | S 28 |
| M29  | 20 24 20 | 5°28'26   | 29°16'15 | 22°56'12 | 12°37'13 | 15'25    | 25°26'15 | 1°5'26   | 26°52'22 | 21°6'21  | 20°5'22  | 21°31'19 | 21°22'19 | 21°42'19 | 21°42'19 | M29  |
| T 30 | 20 28 17 | 6°25'46   | 14°21'17 | 23°36'13 | 13°15'25 | 39'23    | 25°39'15 | 1°11'26  | 26°51'22 | 21°6'21  | 19°58'22 | 21°28'19 | 21°29'19 | 21°48'19 | 21°48'19 | T 30 |
| W31  | 20 32 14 | 7°12'3'08 | 29°33'19 | 19°12'24 | 12°17'13 | 53'25    | 25°53'15 | 1°18'26  | 26°49'22 | 21°6'21  | 19°52'21 | 21°25'19 | 21°36'19 | 21°54'19 | 21°54'19 | W31  |

| Day  | ☉     | ☽     | ♀    | ♂     | ♂    | ♂     | ♂    | ♂     | ♂    | ♂     | ♂    | ♂     | ♂    | ♂     | ♂    | ♂     |
|------|-------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|
|      | decl  | decl  | lat  | decl  | lat  | decl  | lat  | decl  | lat  | decl  | lat  | decl  | lat  | decl  | lat  | lat   |
| M 1  | 23n 7 | 18n 4 | 5s 2 | 21n17 | 1s42 | 18n43 | 3s49 | 22n16 | 1n 7 | 22n12 | 0n 9 | 22n23 | 0s32 | 23s35 | 0s11 | 21n 0 |
| T 2  | 23 3  | 18 24 | 4 53 | 21 36 | 1 30 | 18 35 | 3 56 | 22 9  | 1 7  | 22 10 | 0 9  | 22 22 | 0 32 | 23 35 | 0 11 | 21 0  |
| W 3  | 22 59 | 17 24 | 4 24 | 21 54 | 1 18 | 18 28 | 4 2  | 22 2  | 1 7  | 22 8  | 0 9  | 22 21 | 0 32 | 23 35 | 0 11 | 21 0  |
| T 4  | 22 54 | 15 11 | 3 36 | 22 11 | 1 6  | 18 21 | 4 9  | 21 55 | 1 7  | 22 6  | 0 10 | 22 21 | 0 32 | 23 34 | 0 11 | 20 59 |
| F 5  | 22 49 | 11 58 | 2 34 | 22 27 | 0 54 | 18 15 | 4 14 | 21 47 | 1 7  | 22 4  | 0 10 | 22 20 | 0 32 | 23 34 | 0 11 | 20 59 |
| S 6  | 22 43 | 8 6   | 1 23 | 22 42 | 0 41 | 18 10 | 4 19 | 21 40 | 1 7  | 22 2  | 0 10 | 22 20 | 0 32 | 23 34 | 0 11 | 20 59 |
| S 7  | 22 37 | 3 52  | 0 9  | 22 55 | 0 29 | 18 6  | 4 24 | 21 32 | 1 8  | 22 0  | 0 10 | 22 19 | 0 32 | 23 34 | 0 11 | 20 58 |
| M 8  | 22 31 | 0s26  | 1n 3 | 23 6  | 0 17 | 18 2  | 4 28 | 21 24 | 1 8  | 21 58 | 0 10 | 22 18 | 0 32 | 23 34 | 0 11 | 20 58 |
| T 9  | 22 24 | 4 34  | 2 10 | 23 16 | 0 6  | 17 59 | 4 32 | 21 16 | 1 8  | 21 57 | 0 10 | 22 18 | 0 32 | 23 34 | 0 11 | 20 58 |
| W10  | 22 17 | 8 23  | 3 8  | 23 23 | 0n 6 | 17 56 | 4 36 | 21 8  | 1 8  | 21 55 | 0 10 | 22 17 | 0 31 | 23 34 | 0 11 | 20 57 |
| T 11 | 22 9  | 11 43 | 3 56 | 23 28 | 0 17 | 17 55 | 4 39 | 21 0  | 1 8  | 21 53 | 0 10 | 22 16 | 0 31 | 23 34 | 0 11 | 20 57 |
| F 12 | 22 2  | 14 29 | 4 31 | 23 31 | 0 27 | 17 54 | 4 41 | 20 51 | 1 8  | 21 50 | 0 10 | 22 16 | 0 31 | 23 34 | 0 11 | 20 57 |
| S 13 | 21 53 | 16 33 | 4 54 | 23 31 | 0 38 | 17 53 | 4 44 | 20 43 | 1 8  | 21 48 | 0 10 | 22 15 | 0 31 | 23 34 | 0 11 | 20 56 |
| S 14 | 21 45 | 17 53 | 5 4  | 23 28 | 0 47 | 17 53 | 4 45 | 20 34 | 1 8  | 21 46 | 0 10 | 22 14 | 0 31 | 23 34 | 0 11 | 20 56 |
| M15  | 21 36 | 18 25 | 5 0  | 23 23 | 0 56 | 17 53 | 4 47 | 20 25 | 1 8  | 21 44 | 0 11 | 22 14 | 0 31 | 23 34 | 0 11 | 20 56 |
| T 16 | 21 26 | 18 7  | 4 43 | 23 15 | 1 5  | 17 54 | 4 48 | 20 16 | 1 8  | 21 42 | 0 11 | 22 13 | 0 31 | 23 34 | 0 11 | 20 55 |
| W17  | 21 16 | 17 3  | 4 14 | 23 4  | 1 12 | 17 56 | 4 49 | 20 7  | 1 8  | 21 40 | 0 11 | 22 12 | 0 31 | 23 34 | 0 11 | 20 55 |
| T 18 | 21 6  | 15 14 | 3 33 | 22 50 | 1 19 | 17 57 | 4 50 | 19 57 | 1 8  | 21 38 | 0 11 | 22 12 | 0 31 | 23 34 | 0 11 | 20 55 |
| F 19 | 20 56 | 12 46 | 2 44 | 22 34 | 1 25 | 17 59 | 4 50 | 19 48 | 1 8  | 21 36 | 0 11 | 22 11 | 0 31 | 23 34 | 0 11 | 20 54 |
| S 20 | 20 45 | 9 46  | 1 46 | 22 16 | 1 31 | 18 2  | 4 50 | 19 38 | 1 8  | 21 34 | 0 11 | 22 10 | 0 31 | 23 34 | 0 11 | 20 54 |
| S 21 | 20 34 | 6 19  | 0 44 | 21 54 | 1 36 | 18 5  | 4 50 | 19 29 | 1 9  | 21 31 | 0 11 | 22 10 | 0 31 | 23 34 | 0 11 | 20 54 |
| M22  | 20 22 | 2 34  | 0s22 | 21 31 | 1 39 | 18 8  | 4 49 | 19 19 | 1 9  | 21 29 | 0 11 | 22 9  | 0 31 | 23 34 | 0 11 | 20 53 |
| T 23 | 20 11 | 1n22  | 1 28 | 21 5  | 1 43 | 18 11 | 4 49 | 19 9  | 1 9  | 21 27 | 0 11 | 22 8  | 0 30 | 23 34 | 0 11 | 20 53 |
| W24  | 19 58 | 5 19  | 2 31 | 20 38 | 1 45 | 18 14 | 4 48 | 18 59 | 1 9  | 21 25 | 0 11 | 22 7  | 0 30 | 23 34 | 0 11 | 20 52 |
| T 25 | 19 46 | 9 7   | 3 28 | 20 8  | 1 47 | 18 18 | 4 46 | 18 48 | 1 9  | 21 22 | 0 11 | 22 7  | 0 30 | 23 34 | 0 11 | 20 52 |
| F 26 | 19 33 | 12 34 | 4 16 | 19 37 | 1 48 | 18 22 | 4 45 | 18 38 | 1 9  | 21 20 | 0 12 | 22 6  | 0 30 | 23 34 | 0 11 | 20 52 |
| S 27 | 19 20 | 15 25 | 4 50 | 19 4  | 1 48 | 18 26 | 4 43 | 18 27 | 1 9  | 21 18 | 0 12 | 22 5  | 0 30 | 23 34 | 0 11 | 20 51 |
| S 28 | 19 6  | 17 25 | 5 7  | 18 30 | 1 47 | 18 30 | 4 42 | 18 17 | 1 9  | 21 15 | 0 12 | 22 4  | 0 30 | 23 34 | 0 11 | 20 51 |
| M29  | 18 52 | 18 19 | 5 5  | 17 54 | 1 46 | 18 34 | 4 40 | 18 6  | 1 9  | 21 13 | 0 12 | 22 4  | 0 30 | 23 34 | 0 11 | 20 51 |
| T 30 | 18 38 | 17 58 | 4 42 | 17 18 | 1 44 | 18 38 | 4 38 | 17 55 | 1 9  | 21 11 | 0 12 | 22 3  | 0 30 | 23 34 | 0 11 | 20 50 |
| W31  | 18n24 | 16n20 | 3s58 | 16n40 | 1n42 | 18n42 | 4s35 | 17n44 | 1n 9 | 21n 8 | 0n12 | 22n 2 | 0s30 | 23s33 | 0s11 | 20n50 |

Julian Day Number = 2539018.5, Delta T = 206.88 sec

Ecliptic obliquity = 23°24'19, Nutation = - 0°00'02, out-of-bounds declination in red

Ayanamsha: Fagan/Bradley = 28°05'15, Lahiri = 27°12'15



# ASTRODIENST EPHEMERIS for the year 2239

## geocentric

AUGUST 2239

00:00 UT

| Day  | Sid.t    | ☉        | ☽     | ♀     | ♂     | ♂     | ♂     | ♂     | ♂      | ♂     | ♂      | ♂      | ♂     | ♂     | ♂     | Day  |
|------|----------|----------|-------|-------|-------|-------|-------|-------|--------|-------|--------|--------|-------|-------|-------|------|
| T 1  | 20 36 10 | 8♌20'30  | 14♌44 | 21♌5  | 25♌0  | 14♌32 | 26♌6  | 15♌26 | 26♌R47 | 22♌59 | 21♌R 6 | 19♌R47 | 21♌22 | 21♌42 | 22♌0  | T 1  |
| F 2  | 20 40 7  | 9♍17'52  | 29♍44 | 22♍56 | 25♍43 | 15♍10 | 26♍19 | 15♍33 | 26♍46  | 23♍1  | 21♍D 6 | 19♍44  | 21♍19 | 21♍49 | 22♍7  | F 2  |
| S 3  | 20 44 3  | 10♎15'16 | 14♎23 | 24♎46 | 26♎27 | 15♎48 | 26♎33 | 15♎40 | 26♎44  | 23♎3  | 21♎6   | 19♎D43 | 21♎15 | 21♎56 | 22♎13 | S 3  |
| S 4  | 20 48 0  | 11♏12'39 | 28♏36 | 26♏34 | 27♏12 | 16♏27 | 26♏46 | 15♏48 | 26♏42  | 23♏5  | 21♏6   | 19♏43  | 21♏12 | 22♏2  | 22♏19 | S 4  |
| M 5  | 20 51 56 | 12♐10'04 | 12♐23 | 28♐20 | 27♐58 | 17♐5  | 26♐59 | 15♐55 | 26♐41  | 23♐8  | 21♐6   | 19♐44  | 21♐9  | 22♐9  | 22♐25 | M 5  |
| T 6  | 20 55 53 | 13♑7'29  | 25♑43 | 0♑5   | 28♑45 | 17♑43 | 27♑12 | 16♑2  | 26♑40  | 23♑10 | 21♑6   | 19♑45  | 21♑6  | 22♑16 | 22♑31 | T 6  |
| W 7  | 20 59 49 | 14♒4'54  | 8♒39  | 1♒48  | 29♒33 | 18♒22 | 27♒25 | 16♒10 | 26♒38  | 23♒12 | 21♒6   | 19♒R46 | 21♒3  | 22♒22 | 22♒37 | W 7  |
| T 8  | 21 3 46  | 15♓2'20  | 21♓13 | 3♓30  | 0♓21  | 19♓0  | 27♓39 | 16♓17 | 26♓37  | 23♓14 | 21♓7   | 19♓46  | 21♓0  | 22♓29 | 22♓43 | T 8  |
| F 9  | 21 7 43  | 15♓59'47 | 3♓32  | 5♓9   | 1♓10  | 19♓38 | 27♓52 | 16♓24 | 26♓35  | 23♓16 | 21♓7   | 19♓45  | 20♓56 | 22♓36 | 22♓50 | F 9  |
| S 10 | 21 11 39 | 16♓57'15 | 15♓38 | 6♓47  | 2♓0   | 20♓16 | 28♓5  | 16♓31 | 26♓34  | 23♓18 | 21♓7   | 19♓42  | 20♓53 | 22♓43 | 22♓56 | S 10 |
| S 11 | 21 15 36 | 17♓54'43 | 27♓36 | 8♓24  | 2♓50  | 20♓55 | 28♓18 | 16♓38 | 26♓33  | 23♓20 | 21♓7   | 19♓38  | 20♓50 | 22♓49 | 23♓2  | S 11 |
| M12  | 21 19 32 | 18♓52'12 | 9♓29  | 9♓59  | 3♓41  | 21♓33 | 28♓31 | 16♓45 | 26♓32  | 23♓22 | 21♓8   | 19♓33  | 20♓47 | 22♓56 | 23♓8  | M12  |
| T 13 | 21 23 29 | 19♓49'42 | 21♓20 | 11♓32 | 4♓33  | 22♓11 | 28♓44 | 16♓52 | 26♓31  | 23♓24 | 21♓8   | 19♓28  | 20♓44 | 23♓3  | 23♓14 | T 13 |
| W14  | 21 27 25 | 20♓47'13 | 3♓13  | 13♓4  | 5♓25  | 22♓49 | 28♓57 | 16♓59 | 26♓29  | 23♓26 | 21♓9   | 19♓23  | 20♓40 | 23♓9  | 23♓20 | W14  |
| T 15 | 21 31 22 | 21♓44'45 | 15♓8  | 14♓33 | 6♓18  | 23♓27 | 29♓10 | 17♓6  | 26♓28  | 23♓28 | 21♓9   | 19♓18  | 20♓37 | 23♓16 | 23♓25 | T 15 |
| F 16 | 21 35 18 | 22♓42'17 | 27♓8  | 16♓2  | 7♓12  | 24♓6  | 29♓23 | 17♓13 | 26♓27  | 23♓30 | 21♓9   | 19♓16  | 20♓34 | 23♓23 | 23♓31 | F 16 |
| S 17 | 21 39 15 | 23♓39'51 | 9♓14  | 17♓28 | 8♓6   | 24♓44 | 29♓36 | 17♓20 | 26♓26  | 23♓32 | 21♓10  | 19♓14  | 20♓31 | 23♓29 | 23♓37 | S 17 |
| S 18 | 21 43 12 | 24♓37'27 | 21♓29 | 18♓53 | 9♓1   | 25♓22 | 29♓48 | 17♓27 | 26♓26  | 23♓34 | 21♓11  | 19♓D13 | 20♓28 | 23♓36 | 23♓43 | S 18 |
| M19  | 21 47 8  | 25♓35'03 | 3♓55  | 20♓16 | 9♓56  | 26♓0  | 0♓1   | 17♓33 | 26♓25  | 23♓36 | 21♓11  | 19♓14  | 20♓25 | 23♓43 | 23♓49 | M19  |
| T 20 | 21 51 5  | 26♓32'41 | 16♓33 | 21♓38 | 10♓52 | 26♓39 | 0♓14  | 17♓40 | 26♓24  | 23♓38 | 21♓12  | 19♓15  | 20♓21 | 23♓50 | 23♓55 | T 20 |
| W21  | 21 55 1  | 27♓30'20 | 29♓25 | 22♓58 | 11♓48 | 27♓17 | 0♓27  | 17♓47 | 26♓23  | 23♓40 | 21♓12  | 19♓17  | 20♓18 | 23♓56 | 24♓0  | W21  |
| T 22 | 21 58 58 | 28♓28'01 | 12♓36 | 24♓15 | 12♓45 | 27♓55 | 0♓39  | 17♓53 | 26♓22  | 23♓42 | 21♓13  | 19♓18  | 20♓15 | 24♓3  | 24♓6  | T 22 |
| F 23 | 22 2 54  | 29♓25'44 | 26♓5  | 25♓31 | 13♓42 | 28♓33 | 0♓52  | 18♓0  | 26♓22  | 23♓44 | 21♓14  | 19♓R19 | 20♓12 | 24♓10 | 24♓12 | F 23 |
| S 24 | 22 6 51  | 0♑23'28  | 9♑55  | 26♓45 | 14♓40 | 29♓11 | 1♓4   | 18♓6  | 26♓21  | 23♓46 | 21♓14  | 19♓19  | 20♓9  | 24♓16 | 24♓17 | S 24 |
| S 25 | 22 10 47 | 1♑21'14  | 24♓7  | 27♓58 | 15♓38 | 29♓49 | 1♓17  | 18♓13 | 26♓20  | 23♓48 | 21♓15  | 19♓18  | 20♓6  | 24♓23 | 24♓23 | S 25 |
| M26  | 22 14 44 | 2♑19'01  | 8♑37  | 29♓8  | 16♓36 | 0♑28  | 1♓29  | 18♓19 | 26♓20  | 23♓50 | 21♓16  | 19♓16  | 20♓2  | 24♓30 | 24♓28 | M26  |
| T 27 | 22 18 41 | 3♑16'50  | 23♓22 | 0♑15  | 17♓35 | 1♓6   | 1♓42  | 18♓25 | 26♓19  | 23♓51 | 21♓17  | 19♓14  | 19♓59 | 24♓36 | 24♓34 | T 27 |
| W28  | 22 22 37 | 4♑14'41  | 8♑16  | 1♑21  | 18♓34 | 1♓44  | 1♓54  | 18♓32 | 26♓19  | 23♓53 | 21♓18  | 19♓12  | 19♓56 | 24♓43 | 24♓39 | W28  |
| T 29 | 22 26 34 | 5♑12'33  | 23♓11 | 2♑24  | 19♓34 | 2♑22  | 2♓7   | 18♓38 | 26♓18  | 23♓55 | 21♓19  | 19♓11  | 19♓53 | 24♓50 | 24♓45 | T 29 |
| F 30 | 22 30 30 | 6♑10'27  | 7♑59  | 3♑25  | 20♓34 | 3♓0   | 2♓19  | 18♓44 | 26♓18  | 23♓57 | 21♓20  | 19♓10  | 19♓50 | 24♓57 | 24♓50 | F 30 |
| S 31 | 22 34 27 | 7♑8'22   | 22♑33 | 4♑23  | 21♓35 | 3♑39  | 2♓31  | 18♓50 | 26♓18  | 23♓58 | 21♓21  | 19♓D10 | 19♑46 | 25♓3  | 24♓55 | S 31 |

| Day  | ☉     | ☽     | ♀    | ♂     | ♂    | ♂     | ♂    | ♂     | ♂    | ♂     | ♂    | ♂     | ♂    | ♂     | ♂    | ♂     |
|------|-------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|
|      | decl  | decl  | lat  | decl  | lat  | decl  | lat  | decl  | lat  | decl  | lat  | decl  | lat  | decl  | lat  | lat   |
| T 1  | 18n 9 | 13n33 | 2s58 | 16n 1 | 1n39 | 18n46 | 4s33 | 17n33 | 1n 9 | 21n 6 | 0n12 | 22n 1 | 0s30 | 23s33 | 0s11 | 20n50 |
| F 2  | 17 54 | 9 53  | 1 46 | 15 22 | 1 36 | 18 50 | 4 30 | 17 22 | 1 9  | 21 4  | 0 12 | 22 0  | 0 30 | 23 33 | 0 11 | 20 49 |
| S 3  | 17 39 | 5 42  | 0 29 | 14 41 | 1 32 | 18 54 | 4 27 | 17 10 | 1 9  | 21 1  | 0 12 | 22 0  | 0 30 | 23 33 | 0 11 | 20 49 |
| S 4  | 17 23 | 1 17  | 0n48 | 14 1  | 1 27 | 18 58 | 4 25 | 16 59 | 1 9  | 20 59 | 0 12 | 21 59 | 0 30 | 23 33 | 0 11 | 20 49 |
| M 5  | 17 7  | 3s 2  | 2 0  | 13 20 | 1 23 | 19 2  | 4 22 | 16 47 | 1 9  | 20 56 | 0 13 | 21 58 | 0 30 | 23 33 | 0 11 | 20 48 |
| T 6  | 16 51 | 7 4   | 3 4  | 12 38 | 1 17 | 19 6  | 4 18 | 16 36 | 1 9  | 20 54 | 0 13 | 21 57 | 0 30 | 23 33 | 0 11 | 20 48 |
| W 7  | 16 35 | 10 39 | 3 55 | 11 56 | 1 12 | 19 9  | 4 15 | 16 24 | 1 9  | 20 51 | 0 13 | 21 56 | 0 29 | 23 33 | 0 11 | 20 47 |
| T 8  | 16 18 | 13 37 | 4 34 | 11 14 | 1 6  | 19 13 | 4 12 | 16 12 | 1 9  | 20 49 | 0 13 | 21 56 | 0 29 | 23 33 | 0 11 | 20 47 |
| F 9  | 16 1  | 15 55 | 5 0  | 10 31 | 0 59 | 19 16 | 4 8  | 16 0  | 1 9  | 20 46 | 0 13 | 21 55 | 0 29 | 23 33 | 0 11 | 20 47 |
| S 10 | 15 44 | 17 28 | 5 11 | 9 49  | 0 52 | 19 19 | 4 5  | 15 48 | 1 9  | 20 44 | 0 13 | 21 54 | 0 29 | 23 33 | 0 11 | 20 46 |
| S 11 | 15 27 | 18 14 | 5 9  | 9 6   | 0 45 | 19 22 | 4 1  | 15 36 | 1 9  | 20 41 | 0 13 | 21 53 | 0 29 | 23 33 | 0 11 | 20 46 |
| M12  | 15 9  | 18 11 | 4 53 | 8 24  | 0 38 | 19 24 | 3 57 | 15 23 | 1 9  | 20 39 | 0 13 | 21 52 | 0 29 | 23 33 | 0 11 | 20 46 |
| T 13 | 14 51 | 17 21 | 4 25 | 7 42  | 0 30 | 19 27 | 3 53 | 15 11 | 1 9  | 20 36 | 0 13 | 21 52 | 0 29 | 23 33 | 0 11 | 20 45 |
| W14  | 14 33 | 15 45 | 3 46 | 6 59  | 0 22 | 19 29 | 3 49 | 14 58 | 1 9  | 20 34 | 0 13 | 21 51 | 0 29 | 23 33 | 0 11 | 20 45 |
| T 15 | 14 14 | 13 28 | 2 56 | 6 17  | 0 14 | 19 30 | 3 45 | 14 46 | 1 9  | 20 31 | 0 14 | 21 50 | 0 29 | 23 33 | 0 11 | 20 45 |
| F 16 | 13 56 | 10 36 | 1 58 | 5 35  | 0 5  | 19 32 | 3 41 | 14 33 | 1 9  | 20 29 | 0 14 | 21 49 | 0 29 | 23 33 | 0 11 | 20 44 |
| S 17 | 13 37 | 7 15  | 0 55 | 4 54  | 0s 3 | 19 33 | 3 37 | 14 20 | 1 9  | 20 26 | 0 14 | 21 48 | 0 29 | 23 33 | 0 11 | 20 44 |
| S 18 | 13 18 | 3 34  | 0s12 | 4 12  | 0 12 | 19 34 | 3 33 | 14 7  | 1 9  | 20 23 | 0 14 | 21 48 | 0 29 | 23 33 | 0 11 | 20 44 |
| M19  | 12 58 | 0n20  | 1 20 | 3 32  | 0 21 | 19 34 | 3 28 | 13 55 | 1 9  | 20 21 | 0 14 | 21 47 | 0 29 | 23 33 | 0 11 | 20 43 |
| T 20 | 12 39 | 4 16  | 2 25 | 2 51  | 0 30 | 19 35 | 3 24 | 13 42 | 1 9  | 20 18 | 0 14 | 21 46 | 0 29 | 23 33 | 0 11 | 20 43 |
| W21  | 12 19 | 8 4   | 3 24 | 2 11  | 0 40 | 19 34 | 3 19 | 13 28 | 1 9  | 20 16 | 0 14 | 21 45 | 0 29 | 23 33 | 0 11 | 20 43 |
| T 22 | 11 59 | 11 34 | 4 13 | 1 32  | 0 49 | 19 34 | 3 15 | 13 15 | 1 9  | 20 13 | 0 14 | 21 44 | 0 29 | 23 33 | 0 11 | 20 42 |
| F 23 | 11 39 | 14 33 | 4 50 | 0 53  | 0 58 | 19 33 | 3 10 | 13 2  | 1 8  | 20 10 | 0 14 | 21 44 | 0 29 | 23 33 | 0 11 | 20 42 |
| S 24 | 11 19 | 16 46 | 5 12 | 0 15  | 1 8  | 19 31 | 3 6  | 12 49 | 1 8  | 20 8  | 0 15 | 21 43 | 0 28 | 23 33 | 0 11 | 20 42 |
| S 25 | 10 59 | 18 2  | 5 15 | 0s23  | 1 18 | 19 30 | 3 1  | 12 35 | 1 8  | 20 5  | 0 15 | 21 42 | 0 28 | 23 33 | 0 11 | 20 41 |
| M26  | 10 38 | 18 10 | 4 58 | 1 0   | 1 28 | 19 27 | 2 56 | 12 22 | 1 8  | 20 2  | 0 15 | 21 41 | 0 28 | 23 33 | 0 11 | 20 41 |
| T 27 | 10 17 | 17 5  | 4 22 | 1 35  | 1 37 | 19 25 | 2 52 | 12 8  | 1 8  | 20 0  | 0 15 | 21 40 | 0 28 | 23 33 | 0 11 | 20 41 |
| W28  | 9 56  | 14 50 | 3 27 | 2 11  | 1 47 | 19 22 | 2 47 | 11 54 | 1 8  | 19 57 | 0 15 | 21 40 | 0 28 | 23 33 | 0 11 | 20 40 |
| T 29 | 9 35  | 11 35 | 2 19 | 2 45  | 1 57 | 19 18 | 2 42 | 11 41 | 1 8  | 19 54 | 0 15 | 21 39 | 0 28 | 23 33 | 0 11 | 20 40 |
| F 30 | 9 14  | 7 37  | 1 1  | 3 18  | 2 7  | 19 14 | 2 37 | 11 27 | 1 8  | 19 52 | 0 15 | 21 38 | 0 28 | 23 33 | 0 11 | 20 40 |
| S 31 | 8n53  | 3n14  | 0n19 | 3s50  | 2s16 | 19n10 | 2s33 | 11n13 | 1n 8 | 19n49 | 0n15 | 21n37 | 0s28 | 23s33 | 0s11 | 20n40 |

Julian Day Number = 2539049.5, Delta T = 206.99 sec  
 Ecliptic obliquity = 23°24'20", Nutation = - 0°00'01", out-of-bounds declination in red  
 Ayanamsha: Fagan/Bradley = 28°05'19, Lahiri = 27°12'20

ASTRODIENST EPHEMERIS for the year 2239  
geocentric

SEPTEMBER 2239

00:00 UT

| Day  | Sid.t    | ☉                    | ☽                  | ♀                  | ♂                  | ♂                  | ♂                 | ♂                  | ♂                   | ♂                  | ♂                  | ♂                  | ♂                  | ♂                  | ♂                  | Day  |
|------|----------|----------------------|--------------------|--------------------|--------------------|--------------------|-------------------|--------------------|---------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|------|
| S 1  | 22 38 23 | 8 <sup>h</sup> 6'19  | 6 <sup>h</sup> 47  | 5 <sup>h</sup> 19  | 22 <sup>h</sup> 35 | 4 <sup>h</sup> 17  | 2 <sup>h</sup> 43 | 18 <sup>h</sup> 56 | 26 <sup>h</sup> R18 | 24 <sup>h</sup> 0  | 21 <sup>h</sup> 22 | 19 <sup>h</sup> 10 | 19 <sup>h</sup> 43 | 25 <sup>h</sup> 10 | 25 <sup>h</sup> 1  | S 1  |
| M 2  | 22 42 20 | 9° 4'17              | 20°37              | 6°11               | 23°36              | 4°55               | 2°55              | 19° 2              | 26 <sup>h</sup> 17  | 24° 2              | 21°23              | 19°11              | 19°40              | 25°17              | 25° 6              | M 2  |
| T 3  | 22 46 16 | 10° 2'16             | 4 <sup>h</sup> 1   | 7° 1               | 24°38              | 5°33               | 3° 7              | 19° 8              | 26°17               | 24° 4              | 21°24              | 19°12              | 19°37              | 25°23              | 25°11              | T 3  |
| W 4  | 22 50 13 | 11° 0'17             | 17° 2              | 7°47               | 25°40              | 6°11               | 3°19              | 19°14              | 26°17               | 24° 5              | 21°25              | 19°12              | 19°34              | 25°30              | 25°16              | W 4  |
| T 5  | 22 54 10 | 11°58'19             | 29°40              | 8°29               | 26°42              | 6°50               | 3°31              | 19°20              | 26°D17              | 24° 7              | 21°26              | 19°13              | 19°31              | 25°37              | 25°21              | T 5  |
| F 6  | 22 58 6  | 12°56'23             | 12 <sup>h</sup> 1  | 9° 8               | 27°44              | 7°28               | 3°43              | 19°25              | 26°17               | 24° 8              | 21°27              | 19°R13             | 19°27              | 25°43              | 25°26              | F 6  |
| S 7  | 23 2 3   | 13°54'28             | 24° 8              | 9°43               | 28°47              | 8° 6               | 3°55              | 19°31              | 26°17               | 24°10              | 21°28              | 19°13              | 19°24              | 25°50              | 25°31              | S 7  |
| S 8  | 23 5 59  | 14°52'34             | 6 <sup>h</sup> 5   | 10°14              | 29°50              | 8°44               | 4° 6              | 19°36              | 26°17               | 24°12              | 21°29              | 19°13              | 19°21              | 25°57              | 25°36              | S 8  |
| M 9  | 23 9 56  | 15°50'41             | 17°57              | 10°40              | 0 <sup>h</sup> 53  | 9°22               | 4°18              | 19°42              | 26°17               | 24°13              | 21°31              | 19°12              | 19°18              | 26° 3              | 25°41              | M 9  |
| T 10 | 23 13 52 | 16°48'51             | 29°49              | 11° 2              | 1°57               | 10° 0              | 4°29              | 19°47              | 26°18               | 24°15              | 21°32              | 19°12              | 19°15              | 26°10              | 25°46              | T 10 |
| W11  | 23 17 49 | 17°47'01             | 11 <sup>h</sup> 43 | 11°18              | 3° 0               | 10°39              | 4°41              | 19°53              | 26°18               | 24°16              | 21°33              | 19°12              | 19°11              | 26°17              | 25°51              | W11  |
| T 12 | 23 21 45 | 18°45'13             | 23°43              | 11°29              | 4° 4               | 11°17              | 4°52              | 19°58              | 26°18               | 24°18              | 21°35              | 19°D12             | 19° 8              | 26°24              | 25°55              | T 12 |
| F 13 | 23 25 42 | 19°43'27             | 5 <sup>h</sup> 52  | 11°R34             | 5° 9               | 11°55              | 5° 4              | 20° 3              | 26°19               | 24°19              | 21°36              | 19°12              | 19° 5              | 26°30              | 26° 0              | F 13 |
| S 14 | 23 29 38 | 20°41'42             | 18°11              | 11°33              | 6°13               | 12°33              | 5°15              | 20° 8              | 26°19               | 24°21              | 21°37              | 19°R12             | 19° 2              | 26°37              | 26° 5              | S 14 |
| S 15 | 23 33 35 | 21°40'00             | 0 <sup>h</sup> 42  | 11°26              | 7°18               | 13°11              | 5°26              | 20°13              | 26°20               | 24°22              | 21°39              | 19°12              | 18°59              | 26°44              | 26° 9              | S 15 |
| M16  | 23 37 32 | 22°38'19             | 13°26              | 11°12              | 8°23               | 13°49              | 5°37              | 20°18              | 26°20               | 24°23              | 21°40              | 19°11              | 18°56              | 26°50              | 26°14              | M16  |
| T 17 | 23 41 28 | 23°36'40             | 26°23              | 10°52              | 9°29               | 14°28              | 5°48              | 20°23              | 26°21               | 24°25              | 21°42              | 19°11              | 18°52              | 26°57              | 26°18              | T 17 |
| W18  | 23 45 25 | 24°35'02             | 9 <sup>h</sup> 34  | 10°25              | 10°34              | 15° 6              | 5°59              | 20°28              | 26°21               | 24°26              | 21°43              | 19°10              | 18°49              | 27° 4              | 26°22              | W18  |
| T 19 | 23 49 21 | 25°33'27             | 22°59              | 9°51               | 11°40              | 15°44              | 6°10              | 20°33              | 26°22               | 24°27              | 21°45              | 19°10              | 18°46              | 27°10              | 26°27              | T 19 |
| F 20 | 23 53 18 | 26°31'55             | 6 <sup>h</sup> 38  | 9°11               | 12°46              | 16°22              | 6°21              | 20°37              | 26°23               | 24°28              | 21°46              | 19° 9              | 18°43              | 27°17              | 26°31              | F 20 |
| S 21 | 23 57 14 | 27°30'24             | 20°30              | 8°25               | 13°52              | 17° 0              | 6°31              | 20°42              | 26°23               | 24°30              | 21°48              | 19° 9              | 18°40              | 27°24              | 26°35              | S 21 |
| S 22 | 0 1 11   | 28°28'55             | 4 <sup>h</sup> 35  | 7°33               | 14°59              | 17°39              | 6°42              | 20°47              | 26°24               | 24°31              | 21°50              | 19°D 9             | 18°37              | 27°31              | 26°39              | S 22 |
| M23  | 0 5 7    | 29°27'29             | 18°50              | 6°36               | 16° 6              | 18°17              | 6°52              | 20°51              | 26°25               | 24°32              | 21°51              | 19° 9              | 18°33              | 27°37              | 26°43              | M23  |
| T 24 | 0 9 4    | 0 <sup>h</sup> 26'05 | 3 <sup>h</sup> 14  | 5°35               | 17°13              | 18°55              | 7° 3              | 20°55              | 26°26               | 24°33              | 21°53              | 19°10              | 18°30              | 27°44              | 26°47              | T 24 |
| W25  | 0 13 1   | 1°24'43              | 17°42              | 4°32               | 18°20              | 19°33              | 7°13              | 20°59              | 26°27               | 24°34              | 21°55              | 19°11              | 18°27              | 27°51              | 26°51              | W25  |
| T 26 | 0 16 57  | 2°23'23              | 2 <sup>h</sup> 12  | 3°27               | 19°27              | 20°12              | 7°23              | 21° 4              | 26°28               | 24°35              | 21°56              | 19°12              | 18°24              | 27°57              | 26°55              | T 26 |
| F 27 | 0 20 54  | 3°22'06              | 16°37              | 2°23               | 20°34              | 20°50              | 7°33              | 21° 8              | 26°29               | 24°36              | 21°58              | 19°R12             | 18°21              | 28° 4              | 26°59              | F 27 |
| S 28 | 0 24 50  | 4°20'50              | 0 <sup>h</sup> 53  | 1°20               | 21°42              | 21°28              | 7°43              | 21°12              | 26°30               | 24°37              | 22° 0              | 19°12              | 18°17              | 28°11              | 27° 2              | S 28 |
| S 29 | 0 28 47  | 5°19'36              | 14°54              | 0°21               | 22°50              | 22° 6              | 7°53              | 21°16              | 26°31               | 24°38              | 22° 2              | 19°11              | 18°14              | 28°17              | 27° 6              | S 29 |
| M30  | 0 32 43  | 6 <sup>h</sup> 18'24 | 28 <sup>h</sup> 37 | 29 <sup>h</sup> 27 | 23 <sup>h</sup> 58 | 22 <sup>h</sup> 44 | 8 <sup>h</sup> 3  | 21 <sup>h</sup> 19 | 26 <sup>h</sup> 33  | 24 <sup>h</sup> 39 | 22 <sup>h</sup> 3  | 19 <sup>h</sup> 9  | 18 <sup>h</sup> 11 | 28 <sup>h</sup> 24 | 27 <sup>h</sup> 10 | M30  |

| Day  | ☉    | ☾     |      | ♀    |      | ♀     |      | ♂     |      | ♂     |      | ♂     |      | ♂     |      | ♂     |      | ♂    |       | ♂    |      | ♂     |       | ♂    |     | ♂    |     |
|------|------|-------|------|------|------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|------|------|-------|------|------|-------|-------|------|-----|------|-----|
|      | decl | decl  | lat  | decl | lat  | decl  | lat  | decl  | lat  | decl  | lat  | decl  | lat  | decl  | lat  | decl  | lat  | decl | lat   | decl | lat  | decl  | lat   | decl | lat | decl | lat |
| S 1  | 8n31 | 1s13  | 1n36 | 4s21 | 2s26 | 19n 5 | 2s28 | 10n59 | 1n 8 | 19n47 | 0n15 | 21n36 | 0s28 | 23s33 | 0s11 | 20n39 | 0s38 | 3s43 | 14n51 | 4n17 | 4n 4 | 16s57 | 14n47 | 6s25 |     |      |     |
| M 2  | 8 9  | 5 29  | 2 46 | 4 50 | 2 36 | 19 0  | 2 23 | 10 45 | 1 8  | 19 44 | 0 16 | 21 36 | 0 28 | 23 33 | 0 11 | 20 39 | 0 38 | 3 44 | 14 50 | 4 17 | 4 5  | 16 56 | 14 45 | 6 26 |     |      |     |
| T 3  | 7 48 | 9 20  | 3 44 | 5 18 | 2 45 | 18 54 | 2 18 | 10 31 | 1 8  | 19 41 | 0 16 | 21 35 | 0 28 | 23 33 | 0 11 | 20 39 | 0 38 | 3 45 | 14 49 | 4 16 | 4 6  | 16 55 | 14 44 | 6 26 |     |      |     |
| W 4  | 7 26 | 12 36 | 4 29 | 5 45 | 2 54 | 18 48 | 2 13 | 10 17 | 1 8  | 19 39 | 0 16 | 21 34 | 0 28 | 23 33 | 0 11 | 20 38 | 0 38 | 3 45 | 14 49 | 4 16 | 4 8  | 16 55 | 14 43 | 6 26 |     |      |     |
| T 5  | 7 4  | 15 11 | 4 59 | 6 10 | 3 3  | 18 41 | 2 8  | 10 2  | 1 8  | 19 36 | 0 16 | 21 33 | 0 28 | 23 33 | 0 11 | 20 38 | 0 38 | 3 46 | 14 48 | 4 16 | 4 9  | 16 54 | 14 42 | 6 27 |     |      |     |
| F 6  | 6 42 | 17 0  | 5 15 | 6 33 | 3 12 | 18 34 | 2 3  | 9 48  | 1 8  | 19 33 | 0 16 | 21 33 | 0 28 | 23 33 | 0 11 | 20 38 | 0 38 | 3 47 | 14 48 | 4 16 | 4 10 | 16 53 | 14 40 | 6 27 |     |      |     |
| S 7  | 6 19 | 18 1  | 5 16 | 6 55 | 3 20 | 18 26 | 1 59 | 9 34  | 1 7  | 19 31 | 0 16 | 21 32 | 0 28 | 23 33 | 0 11 | 20 37 | 0 38 | 3 48 | 14 47 | 4 16 | 4 11 | 16 53 | 14 39 | 6 28 |     |      |     |
| S 8  | 5 57 | 18 13 | 5 4  | 7 14 | 3 28 | 18 18 | 1 54 | 9 19  | 1 7  | 19 28 | 0 16 | 21 31 | 0 28 | 23 33 | 0 11 | 20 37 | 0 38 | 3 49 | 14 47 | 4 16 | 4 13 | 16 52 | 14 38 | 6 28 |     |      |     |
| M 9  | 5 34 | 17 36 | 4 38 | 7 32 | 3 36 | 18 10 | 1 49 | 9 5   | 1 7  | 19 25 | 0 16 | 21 30 | 0 28 | 23 33 | 0 11 | 20 37 | 0 38 | 3 49 | 14 46 | 4 16 | 4 14 | 16 51 | 14 36 | 6 29 |     |      |     |
| T 10 | 5 12 | 16 14 | 4 1  | 7 47 | 3 43 | 18 1  | 1 44 | 8 51  | 1 7  | 19 23 | 0 17 | 21 30 | 0 28 | 23 33 | 0 11 | 20 37 | 0 38 | 3 50 | 14 46 | 4 16 | 4 15 | 16 50 | 14 35 | 6 29 |     |      |     |
| W11  | 4 49 | 14 9  | 3 13 | 7 59 | 3 50 | 17 51 | 1 39 | 8 36  | 1 7  | 19 20 | 0 17 | 21 29 | 0 28 | 23 33 | 0 11 | 20 36 | 0 38 | 3 51 | 14 45 | 4 16 | 4 16 | 16 50 | 14 34 | 6 30 |     |      |     |
| T 12 | 4 27 | 11 27 | 2 17 | 8 9  | 3 55 | 17 41 | 1 34 | 8 21  | 1 7  | 19 18 | 0 17 | 21 28 | 0 27 | 23 33 | 0 11 | 20 36 | 0 38 | 3 52 | 14 45 | 4 16 | 4 18 | 16 49 | 14 32 | 6 30 |     |      |     |
| F 13 | 4 4  | 8 13  | 1 13 | 8 15 | 4 0  | 17 31 | 1 29 | 8 7   | 1 7  | 19 15 | 0 17 | 21 27 | 0 27 | 23 33 | 0 11 | 20 36 | 0 38 | 3 53 | 14 44 | 4 16 | 4 19 | 16 48 | 14 31 | 6 31 |     |      |     |
| S 14 | 3 41 | 4 35  | 0 6  | 8 19 | 4 5  | 17 20 | 1 25 | 7 52  | 1 7  | 19 12 | 0 17 | 21 27 | 0 27 | 23 33 | 0 11 | 20 36 | 0 38 | 3 53 | 14 44 | 4 16 | 4 20 | 16 48 | 14 30 | 6 31 |     |      |     |
| S 15 | 3 18 | 0 42  | 1s 3 | 8 19 | 4 8  | 17 8  | 1 20 | 7 37  | 1 7  | 19 10 | 0 17 | 21 26 | 0 27 | 23 33 | 0 11 | 20 35 | 0 38 | 3 54 | 14 43 | 4 16 | 4 21 | 16 47 | 14 28 | 6 32 |     |      |     |
| M16  | 2 55 | 3n17  | 2 11 | 8 15 | 4 10 | 16 56 | 1 15 | 7 23  | 1 7  | 19 7  | 0 17 | 21 25 | 0 27 | 23 33 | 0 11 | 20 35 | 0 38 | 3 55 | 14 43 | 4 16 | 4 23 | 16 46 | 14 27 | 6 32 |     |      |     |
| T 17 | 2 32 | 7 11  | 3 12 | 8 8  | 4 10 | 16 44 | 1 10 | 7 8   | 1 6  | 19 5  | 0 17 | 21 25 | 0 27 | 23 33 | 0 11 | 20 35 | 0 38 | 3 56 | 14 42 | 4 17 | 4 24 | 16 45 | 14 26 | 6 33 |     |      |     |
| W18  | 2 9  | 10 47 | 4 5  | 7 57 | 4 10 | 16 31 | 1 5  | 6 53  | 1 6  | 19 2  | 0 18 | 21 24 | 0 27 | 23 33 | 0 11 | 20 35 | 0 38 | 3 57 | 14 42 | 4 17 | 4 25 | 16 45 | 14 25 | 6 33 |     |      |     |
| T 19 | 1 46 | 13 54 | 4 45 | 7 41 | 4 7  | 16 17 | 1 1  | 6 38  | 1 6  | 19 0  | 0 18 | 21 23 | 0 27 | 23 33 | 0 11 | 20 34 | 0 38 | 3 57 | 14 41 | 4 17 | 4 26 | 16 44 | 14 23 | 6 34 |     |      |     |
| F 20 | 1 23 | 16 18 | 5 9  | 7 22 | 4 3  | 16 3  | 0 56 | 6 23  | 1 6  | 18 57 | 0 18 | 21 23 | 0 27 | 23 33 | 0 11 | 20 34 | 0 38 | 3 58 | 14 41 | 4 17 | 4 28 | 16 43 | 14 22 | 6 34 |     |      |     |
| S 21 | 0 59 | 17 48 | 5 17 | 6 58 | 3 58 | 15 49 | 0 51 | 6 8   | 1 6  | 18 54 | 0 18 | 21 22 | 0 27 | 23 33 | 0 11 | 20 34 | 0 38 | 3 59 | 14 41 | 4 17 | 4 29 | 16 43 | 14 21 | 6 35 |     |      |     |
| S 22 | 0 36 | 18 14 | 5 6  | 6 31 | 3 50 | 15 34 | 0 47 | 5 53  | 1 6  | 18 52 | 0 18 | 21 21 | 0 27 | 23 33 | 0 11 | 20 34 | 0 38 | 4 0  | 14 40 | 4 17 | 4 30 | 16 42 | 14 19 | 6 35 |     |      |     |
| M23  | 0 13 | 17 32 | 4 36 | 5 59 | 3 40 | 15 19 | 0 42 | 5 38  | 1 6  | 18 49 | 0 18 | 21 21 | 0 27 | 23 33 | 0 11 | 20 34 | 0 38 | 4 1  | 14 40 | 4 17 | 4 31 | 16 41 | 14 18 | 6 36 |     |      |     |
| T 24 | 0s10 | 15 42 | 3 48 | 5 25 | 3 29 | 15 3  | 0 38 | 5 23  | 1 6  | 18 47 | 0 18 | 21 20 | 0 27 | 23 33 | 0 11 | 20 33 | 0 38 | 4 2  | 14 39 | 4 17 | 4 32 | 16 40 | 14 17 | 6 36 |     |      |     |
| W25  | 0 34 | 12 52 | 2 46 | 4 48 | 3 16 | 14 47 | 0 33 | 5 8   | 1 5  | 18 44 | 0 19 | 21 20 | 0 27 | 23 33 | 0 11 | 20 33 | 0 38 | 4 2  | 14 39 | 4 17 | 4 34 | 16 40 | 14 16 | 6 37 |     |      |     |
| T 26 | 0 57 | 9 14  | 1 33 | 4 8  | 3 1  | 14 31 | 0 29 | 4 53  | 1 5  | 18 42 | 0 19 | 21 19 | 0 27 | 23 33 | 0 11 | 20 33 | 0 38 | 4 3  | 14 38 | 4 16 | 4 35 | 16 39 | 14 14 | 6 37 |     |      |     |
| F 27 | 1 20 | 5 3   | 0 14 | 3 27 | 2 44 | 14 14 | 0 24 | 4 38  | 1 5  | 18 40 | 0 19 | 21 18 | 0 27 | 23 33 | 0 11 | 20 33 | 0 38 | 4 4  | 14 38 | 4 16 | 4 36 | 16 38 | 14 13 | 6 38 |     |      |     |
| S 28 | 1 44 | 0 38  | 1n 4 | 2 46 | 2 26 | 13 56 | 0 20 | 4 23  | 1 5  | 18 37 | 0 19 | 21 18 | 0 27 | 23 33 | 0 11 | 20 33 | 0 38 | 4 5  | 14 38 | 4 16 | 4 37 | 16 37 | 14 12 | 6 39 |     |      |     |
| S 29 | 2 7  | 3s45  | 2 17 | 2 5  | 2 7  | 13 38 | 0 16 | 4 7   | 1 5  | 18 35 | 0 19 | 21 17 | 0 27 | 23 33 | 0 11 | 20 32 | 0 38 | 4 6  | 14 37 | 4 17 | 4 39 | 16 37 | 14 11 | 6 39 |     |      |     |
| M30  | 2s30 | 7s50  | 3n21 | 1s25 | 1s47 | 13n20 | 0s11 | 3n52  | 1n 5 | 18n32 | 0n19 | 21n17 | 0s27 | 23s33 | 0s11 | 20n32 | 0s38 | 4s 6 | 14n37 | 4n17 | 4n40 | 16s36 | 14n 9 | 6s40 |     |      |     |

## ASTRODIENST EPHEMERIS for the year 2239

geocentric

OCTOBER 2239

00:00 UT

| Day  | Sid.t   | ☉        | ☽     | ♀      | ♂     | ♂     | ♂     | ♂     | ♂     | ♂      | ♂     | ♂      | ♂     | ♂     | ♂     | Day  |
|------|---------|----------|-------|--------|-------|-------|-------|-------|-------|--------|-------|--------|-------|-------|-------|------|
| T 1  | 0 36 40 | 7♏17'14  | 11♏59 | 28°R39 | 25♏6  | 23♏23 | 8♏13  | 21♏23 | 26♏34 | 24♏40  | 22♏5  | 19°R 6 | 18♏8  | 28♏31 | 27♏13 | T 1  |
| W 2  | 0 40 36 | 8°16'06  | 25° 0 | 27♏59  | 26°14 | 24° 1 | 8°22  | 21°27 | 26°35 | 24°41  | 22° 7 | 19♏4   | 18° 5 | 28°37 | 27°16 | W 2  |
| T 3  | 0 44 33 | 9°15'00  | 7♏41  | 27°28  | 27°23 | 24°39 | 8°32  | 21°30 | 26°37 | 24°42  | 22° 9 | 19° 1  | 18° 2 | 28°44 | 27°20 | T 3  |
| F 4  | 0 48 30 | 10°13'55 | 20° 3 | 27° 6  | 28°32 | 25°17 | 8°41  | 21°33 | 26°38 | 24°43  | 22°11 | 18°59  | 17°58 | 28°51 | 27°23 | F 4  |
| S 5  | 0 52 26 | 11°12'53 | 2♏11  | 26°55  | 29°40 | 25°56 | 8°50  | 21°37 | 26°40 | 24°44  | 22°13 | 18°58  | 17°55 | 28°57 | 27°26 | S 5  |
| S 6  | 0 56 23 | 12°11'52 | 14° 9 | 26°D54 | 0♏49  | 26°34 | 8°59  | 21°40 | 26°41 | 24°45  | 22°15 | 18°D57 | 17°52 | 29° 4 | 27°29 | S 6  |
| M 7  | 1 0 19  | 13°10'52 | 26° 1 | 27° 3  | 1°59  | 27°12 | 9° 8  | 21°43 | 26°43 | 24°45  | 22°17 | 18°58  | 17°49 | 29°11 | 27°32 | M 7  |
| T 8  | 1 4 16  | 14° 9'55 | 7♏52  | 27°22  | 3° 8  | 27°51 | 9°17  | 21°46 | 26°44 | 24°46  | 22°19 | 18°59  | 17°46 | 29°18 | 27°35 | T 8  |
| W 9  | 1 8 12  | 15° 8'59 | 19°47 | 27°51  | 4°17  | 28°29 | 9°26  | 21°49 | 26°46 | 24°47  | 22°21 | 19° 1  | 17°43 | 29°24 | 27°38 | W 9  |
| T 10 | 1 12 9  | 16° 8'05 | 1♏51  | 28°30  | 5°27  | 29° 7 | 9°35  | 21°52 | 26°48 | 24°47  | 22°23 | 19° 3  | 17°39 | 29°31 | 27°41 | T 10 |
| F 11 | 1 16 5  | 17° 7'13 | 14° 7 | 29°17  | 6°37  | 29°45 | 9°43  | 21°55 | 26°49 | 24°48  | 22°25 | 19°R 4 | 17°36 | 29°38 | 27°43 | F 11 |
| S 12 | 1 20 2  | 18° 6'23 | 26°38 | 0♏12   | 7°47  | 0♏24  | 9°52  | 21°57 | 26°51 | 24°49  | 22°27 | 19° 4  | 17°33 | 29°44 | 27°46 | S 12 |
| S 13 | 1 23 58 | 19° 5'34 | 9♏26  | 1°14   | 8°57  | 1° 2  | 10° 0 | 22° 0 | 26°53 | 24°49  | 22°29 | 19° 2  | 17°30 | 29°51 | 27°49 | S 13 |
| M14  | 1 27 55 | 20° 4'48 | 22°31 | 2°23   | 10° 7 | 1°40  | 10° 8 | 22° 2 | 26°55 | 24°50  | 22°31 | 18°59  | 17°27 | 29°58 | 27°51 | M14  |
| T 15 | 1 31 52 | 21° 4'03 | 5♏53  | 3°38   | 11°17 | 2°19  | 10°16 | 22° 4 | 26°57 | 24°50  | 22°33 | 18°55  | 17°23 | 0♏4   | 27°53 | T 15 |
| W16  | 1 35 48 | 22° 3'21 | 19°31 | 4°58   | 12°27 | 2°57  | 10°24 | 22° 7 | 26°59 | 24°51  | 22°35 | 18°49  | 17°20 | 0°11  | 27°56 | W16  |
| T 17 | 1 39 45 | 23° 2'41 | 3♏20  | 6°22   | 13°38 | 3°35  | 10°32 | 22° 9 | 27° 1 | 24°51  | 22°38 | 18°44  | 17°17 | 0°18  | 27°58 | T 17 |
| F 18 | 1 43 41 | 24° 2'03 | 17°19 | 7°50   | 14°49 | 4°14  | 10°39 | 22°11 | 27° 3 | 24°51  | 22°40 | 18°39  | 17°14 | 0°24  | 28° 0 | F 18 |
| S 19 | 1 47 38 | 25° 1'28 | 1♏25  | 9°21   | 16° 0 | 4°52  | 10°47 | 22°12 | 27° 5 | 24°52  | 22°42 | 18°36  | 17°11 | 0°31  | 28° 2 | S 19 |
| S 20 | 1 51 34 | 26° 0'55 | 15°33 | 10°55  | 17°10 | 5°30  | 10°54 | 22°14 | 27° 7 | 24°52  | 22°44 | 18°33  | 17° 8 | 0°38  | 28° 4 | S 20 |
| M21  | 1 55 31 | 27° 0'24 | 29°43 | 12°31  | 18°22 | 6° 9  | 11° 1 | 22°16 | 27° 9 | 24°52  | 22°46 | 18°D33 | 17° 4 | 0°44  | 28° 6 | M21  |
| T 22 | 1 59 27 | 27°59'55 | 13♏52 | 14° 8  | 19°33 | 6°47  | 11° 8 | 22°17 | 27°12 | 24°53  | 22°49 | 18°34  | 17° 1 | 0°51  | 28° 7 | T 22 |
| W23  | 2 3 24  | 28°59'29 | 27°59 | 15°47  | 20°44 | 7°26  | 11°15 | 22°19 | 27°14 | 24°53  | 22°51 | 18°35  | 16°58 | 0°58  | 28° 9 | W23  |
| T 24 | 2 7 21  | 29°59'05 | 12♏2  | 17°27  | 21°55 | 8° 4  | 11°22 | 22°20 | 27°16 | 24°53  | 22°53 | 18°R36 | 16°55 | 1° 5  | 28°11 | T 24 |
| F 25 | 2 11 17 | 0♏58'43  | 26° 0 | 19° 8  | 23° 7 | 8°42  | 11°29 | 22°21 | 27°19 | 24°53  | 22°55 | 18°36  | 16°52 | 1°11  | 28°12 | F 25 |
| S 26 | 2 15 14 | 1°58'24  | 9♏49  | 20°49  | 24°19 | 9°21  | 11°35 | 22°23 | 27°21 | 24°53  | 22°58 | 18°34  | 16°48 | 1°18  | 28°13 | S 26 |
| S 27 | 2 19 10 | 2°58'06  | 23°28 | 22°30  | 25°30 | 9°59  | 11°42 | 22°24 | 27°24 | 24°53  | 23° 0 | 18°30  | 16°45 | 1°25  | 28°15 | S 27 |
| M28  | 2 23 7  | 3°57'50  | 6♏54  | 24°12  | 26°42 | 10°38 | 11°48 | 22°24 | 27°26 | 24°53  | 23° 2 | 18°24  | 16°42 | 1°31  | 28°16 | M28  |
| T 29 | 2 27 3  | 4°57'37  | 20° 5 | 25°53  | 27°54 | 11°16 | 11°54 | 22°25 | 27°29 | 24°R53 | 23° 5 | 18°16  | 16°39 | 1°38  | 28°17 | T 29 |
| W30  | 2 31 0  | 5°57'25  | 2♏58  | 27°35  | 29° 6 | 11°55 | 12° 0 | 22°26 | 27°31 | 24°53  | 23° 7 | 18° 7  | 16°36 | 1°45  | 28°18 | W30  |
| T 31 | 2 34 56 | 6♏57'16  | 15♏35 | 29♏16  | 0♏18  | 12♏33 | 12♏5  | 22♏26 | 27♏34 | 24♏53  | 23♏9  | 17♏59  | 16♏33 | 1♏51  | 28♏19 | T 31 |

| Day  | ☉     | ☽     | ♀    | ♂    | ♂    | ♂     | ♂    | ♂    | ♂    | ♂     | ♂    | ♂     | ♂    | ♂     | ♂    | ♂     |
|------|-------|-------|------|------|------|-------|------|------|------|-------|------|-------|------|-------|------|-------|
|      | decl  | decl  | lat  | decl | lat  | decl  | lat  | decl | lat  | decl  | lat  | decl  | lat  | decl  | lat  | lat   |
| T 1  | 2s53  | 11s25 | 4n12 | 0s48 | 1s27 | 13n 1 | 0s 7 | 3n37 | 1n 5 | 18n30 | 0n19 | 21n16 | 0s27 | 23s33 | 0s11 | 20n32 |
| W 2  | 3 16  | 14 20 | 4 48 | 0 13 | 1 7  | 12 42 | 0 3  | 3 22 | 1 4  | 18 28 | 0 20 | 21 16 | 0 27 | 23 33 | 0 11 | 20 32 |
| T 3  | 3 40  | 16 29 | 5 9  | 0n18 | 0 47 | 12 23 | 0n 1 | 3 6  | 1 4  | 18 25 | 0 20 | 21 15 | 0 26 | 23 33 | 0 11 | 20 32 |
| F 4  | 4 3   | 17 48 | 5 15 | 0 44 | 0 27 | 12 3  | 0 5  | 2 51 | 1 4  | 18 23 | 0 20 | 21 15 | 0 26 | 23 33 | 0 11 | 20 31 |
| S 5  | 4 26  | 18 17 | 5 7  | 1 6  | 0 8  | 11 43 | 0 9  | 2 36 | 1 4  | 18 21 | 0 20 | 21 14 | 0 26 | 23 33 | 0 11 | 20 31 |
| S 6  | 4 49  | 17 56 | 4 45 | 1 23 | 0n 9 | 11 22 | 0 13 | 2 20 | 1 4  | 18 19 | 0 20 | 21 14 | 0 26 | 23 33 | 0 11 | 20 31 |
| M 7  | 5 12  | 16 48 | 4 12 | 1 34 | 0 26 | 11 1  | 0 17 | 2 5  | 1 4  | 18 16 | 0 20 | 21 13 | 0 26 | 23 33 | 0 11 | 20 31 |
| T 8  | 5 35  | 14 56 | 3 27 | 1 41 | 0 41 | 10 40 | 0 21 | 1 50 | 1 3  | 18 14 | 0 20 | 21 13 | 0 26 | 23 33 | 0 11 | 20 31 |
| W 9  | 5 58  | 12 25 | 2 34 | 1 42 | 0 55 | 10 18 | 0 24 | 1 34 | 1 3  | 18 12 | 0 21 | 21 13 | 0 26 | 23 33 | 0 11 | 20 31 |
| T 10 | 6 20  | 9 21  | 1 33 | 1 38 | 1 8  | 9 56  | 0 28 | 1 19 | 1 3  | 18 10 | 0 21 | 21 12 | 0 26 | 23 33 | 0 11 | 20 31 |
| F 11 | 6 43  | 5 49  | 0 27 | 1 29 | 1 19 | 9 34  | 0 32 | 1 3  | 1 3  | 18 8  | 0 21 | 21 12 | 0 26 | 23 33 | 0 11 | 20 31 |
| S 12 | 7 5   | 1 58  | 0s41 | 1 16 | 1 28 | 9 11  | 0 35 | 0 48 | 1 3  | 18 6  | 0 21 | 21 11 | 0 26 | 23 34 | 0 11 | 20 30 |
| S 13 | 7 28  | 2n 3  | 1 49 | 0 59 | 1 37 | 8 48  | 0 39 | 0 33 | 1 2  | 18 3  | 0 21 | 21 11 | 0 26 | 23 34 | 0 11 | 20 30 |
| M14  | 7 50  | 6 5   | 2 53 | 0 38 | 1 43 | 8 25  | 0 42 | 0 17 | 1 2  | 18 1  | 0 21 | 21 11 | 0 26 | 23 34 | 0 11 | 20 30 |
| T 15 | 8 13  | 9 52  | 3 48 | 0 13 | 1 49 | 8 1   | 0 45 | 0 2  | 1 2  | 17 59 | 0 22 | 21 10 | 0 26 | 23 34 | 0 11 | 20 30 |
| W16  | 8 35  | 13 13 | 4 32 | 0s14 | 1 53 | 7 37  | 0 48 | 0s13 | 1 2  | 17 57 | 0 22 | 21 10 | 0 26 | 23 34 | 0 11 | 20 30 |
| T 17 | 8 57  | 15 53 | 5 0  | 0 45 | 1 56 | 7 13  | 0 52 | 0 29 | 1 2  | 17 55 | 0 22 | 21 10 | 0 26 | 23 34 | 0 11 | 20 30 |
| F 18 | 9 19  | 17 38 | 5 11 | 1 17 | 1 59 | 6 49  | 0 55 | 0 44 | 1 2  | 17 54 | 0 22 | 21 10 | 0 26 | 23 34 | 0 11 | 20 30 |
| S 19 | 9 40  | 18 20 | 5 4  | 1 52 | 2 0  | 6 24  | 0 58 | 1 0  | 1 1  | 17 52 | 0 22 | 21 9  | 0 26 | 23 34 | 0 11 | 20 30 |
| S 20 | 10 2  | 17 54 | 4 38 | 2 29 | 2 0  | 5 59  | 1 1  | 1 15 | 1 1  | 17 50 | 0 22 | 21 9  | 0 26 | 23 34 | 0 11 | 20 30 |
| M21  | 10 24 | 16 21 | 3 55 | 3 6  | 1 59 | 5 34  | 1 3  | 1 30 | 1 1  | 17 48 | 0 23 | 21 9  | 0 26 | 23 34 | 0 11 | 20 30 |
| T 22 | 10 45 | 13 48 | 2 57 | 3 45 | 1 58 | 5 9   | 1 6  | 1 46 | 1 1  | 17 46 | 0 23 | 21 9  | 0 26 | 23 34 | 0 11 | 20 30 |
| W23  | 11 6  | 10 26 | 1 50 | 4 25 | 1 56 | 4 43  | 1 9  | 2 1  | 1 0  | 17 44 | 0 23 | 21 8  | 0 26 | 23 34 | 0 11 | 20 30 |
| T 24 | 11 27 | 6 29  | 0 36 | 5 6  | 1 53 | 4 18  | 1 11 | 2 16 | 1 0  | 17 43 | 0 23 | 21 8  | 0 25 | 23 34 | 0 11 | 20 29 |
| F 25 | 11 48 | 2 12  | 0n40 | 5 47 | 1 50 | 3 52  | 1 14 | 2 32 | 1 0  | 17 41 | 0 23 | 21 8  | 0 25 | 23 34 | 0 11 | 20 29 |
| S 26 | 12 9  | 2s10  | 1 52 | 6 28 | 1 46 | 3 26  | 1 16 | 2 47 | 1 0  | 17 39 | 0 23 | 21 8  | 0 25 | 23 34 | 0 11 | 20 29 |
| S 27 | 12 29 | 6 21  | 2 57 | 7 10 | 1 42 | 2 59  | 1 19 | 3 2  | 1 0  | 17 38 | 0 24 | 21 8  | 0 25 | 23 34 | 0 11 | 20 29 |
| M28  | 12 49 | 10 9  | 3 51 | 7 52 | 1 37 | 2 33  | 1 21 | 3 17 | 0 59 | 17 36 | 0 24 | 21 8  | 0 25 | 23 34 | 0 11 | 20 29 |
| T 29 | 13 9  | 13 23 | 4 31 | 8 33 | 1 32 | 2 6   | 1 23 | 3 33 | 0 59 | 17 35 | 0 24 | 21 8  | 0 25 | 23 34 | 0 11 | 20 29 |
| W30  | 13 29 | 15 52 | 4 57 | 9 15 | 1 27 | 1 40  | 1 25 | 3 48 | 0 59 | 17 33 | 0 24 | 21 8  | 0 25 | 23 34 | 0 11 | 20 29 |
| T 31 | 13s49 | 17s32 | 5n 7 | 9s56 | 1n22 | 1n13  | 1n27 | 4s 3 | 0n59 | 17n32 | 0n24 | 21n 8 | 0s25 | 23s34 | 0s11 | 20n29 |

Julian Day Number = 2539110.5, Delta T = 207.19 sec

Ecliptic obliquity = 23°24'21", Nutation = - 0°00'04", out-of-bounds declination in red

Ayanamsha: Fagan/Bradley = 28°05'28", Lahiri = 27°12'28"

# ASTRODIENST EPHEMERIS for the year 2239

## geocentric

NOVEMBER 2239

00:00 UT

| Day  | Sid.t   | ☉        | ☽     | ♀     | ♂     | ♂     | ♂     | ♂      | ♂     | ♂      | ♂     | ♂      | ♂     | ♂    | ♂      | Day  |
|------|---------|----------|-------|-------|-------|-------|-------|--------|-------|--------|-------|--------|-------|------|--------|------|
| F 1  | 2 38 53 | 7♈57°08  | 27♊56 | 0♈58  | 1♈30  | 13♈11 | 12♈11 | 22♈27  | 27♊36 | 24♈R53 | 23♈12 | 17♈R51 | 16♈29 | 1♈58 | 28♈20  | F 1  |
| S 2  | 2 42 50 | 8°57'02  | 10♈3  | 2°38  | 2°43  | 13°50 | 12°16 | 22°27  | 27°39 | 24♈53  | 23°14 | 17♈45  | 16°26 | 2°5  | 28°21  | S 2  |
| S 3  | 2 46 46 | 9°56'57  | 21°59 | 4°19  | 3°55  | 14°28 | 12°21 | 22°27  | 27°42 | 24°53  | 23°16 | 17°40  | 16°23 | 2°11 | 28°21  | S 3  |
| M 4  | 2 50 43 | 10°56'54 | 3♈50  | 5°59  | 5°8   | 15°7  | 12°26 | 22°R28 | 27°44 | 24°53  | 23°19 | 17°38  | 16°20 | 2°18 | 28°22  | M 4  |
| T 5  | 2 54 39 | 11°56'53 | 15°40 | 7°39  | 6°20  | 15°45 | 12°31 | 22°28  | 27°47 | 24°52  | 23°21 | 17°D38 | 16°17 | 2°25 | 28°22  | T 5  |
| W 6  | 2 58 36 | 12°56'53 | 27°35 | 9°18  | 7°33  | 16°24 | 12°36 | 22°27  | 27°50 | 24°52  | 23°24 | 17°39  | 16°14 | 2°31 | 28°23  | W 6  |
| T 7  | 3 2 32  | 13°56'55 | 9♈39  | 10°57 | 8°45  | 17°2  | 12°41 | 22°27  | 27°53 | 24°52  | 23°26 | 17°40  | 16°10 | 2°38 | 28°23  | T 7  |
| F 8  | 3 6 29  | 14°56'58 | 21°57 | 12°36 | 9°58  | 17°41 | 12°45 | 22°27  | 27°56 | 24°52  | 23°28 | 17°R40 | 16°7  | 2°45 | 28°23  | F 8  |
| S 9  | 3 10 25 | 15°57'03 | 4♈34  | 14°14 | 11°11 | 18°19 | 12°49 | 22°26  | 27°59 | 24°51  | 23°31 | 17°39  | 16°4  | 2°51 | 28°R23 | S 9  |
| S 10 | 3 14 22 | 16°57'10 | 17°34 | 15°52 | 12°24 | 18°58 | 12°53 | 22°26  | 28°2  | 24°51  | 23°33 | 17°35  | 16°1  | 2°58 | 28°23  | S 10 |
| M 11 | 3 18 19 | 17°57'18 | 0♈56  | 17°29 | 13°37 | 19°36 | 12°57 | 22°25  | 28°5  | 24°50  | 23°36 | 17°29  | 15°58 | 3°5  | 28°23  | M 11 |
| T 12 | 3 22 15 | 18°57'28 | 14°41 | 19°6  | 14°50 | 20°15 | 13°1  | 22°24  | 28°8  | 24°50  | 23°38 | 17°20  | 15°54 | 3°11 | 28°23  | T 12 |
| W 13 | 3 26 12 | 19°57'40 | 28°45 | 20°42 | 16°3  | 20°54 | 13°4  | 22°23  | 28°11 | 24°49  | 23°40 | 17°10  | 15°51 | 3°18 | 28°22  | W 13 |
| T 14 | 3 30 8  | 20°57'54 | 13♈3  | 22°18 | 17°16 | 21°32 | 13°7  | 22°22  | 28°14 | 24°49  | 23°43 | 16°59  | 15°48 | 3°25 | 28°22  | T 14 |
| F 15 | 3 34 5  | 21°58'10 | 27°30 | 23°54 | 18°30 | 22°11 | 13°10 | 22°21  | 28°17 | 24°48  | 23°45 | 16°50  | 15°45 | 3°32 | 28°22  | F 15 |
| S 16 | 3 38 1  | 22°58'27 | 11♈59 | 25°30 | 19°43 | 22°49 | 13°13 | 22°20  | 28°20 | 24°48  | 23°48 | 16°42  | 15°42 | 3°38 | 28°21  | S 16 |
| S 17 | 3 41 58 | 23°58'46 | 26°25 | 27°5  | 20°57 | 23°28 | 13°16 | 22°19  | 28°23 | 24°47  | 23°50 | 16°36  | 15°39 | 3°45 | 28°20  | S 17 |
| M 18 | 3 45 54 | 24°59'08 | 10♈42 | 28°39 | 22°10 | 24°7  | 13°19 | 22°17  | 28°26 | 24°46  | 23°52 | 16°33  | 15°35 | 3°52 | 28°20  | M 18 |
| T 19 | 3 49 51 | 25°59'31 | 24°50 | 0♈14  | 23°24 | 24°45 | 13°21 | 22°16  | 28°29 | 24°46  | 23°55 | 16°D33 | 15°32 | 3°58 | 28°19  | T 19 |
| W 20 | 3 53 48 | 26°59'56 | 8♈46  | 1°48  | 24°37 | 25°24 | 13°23 | 22°14  | 28°33 | 24°45  | 23°57 | 16°33  | 15°29 | 4°5  | 28°18  | W 20 |
| T 21 | 3 57 44 | 28°0'23  | 22°31 | 3°22  | 25°51 | 26°2  | 13°25 | 22°12  | 28°36 | 24°44  | 24°0  | 16°R33 | 15°26 | 4°12 | 28°17  | T 21 |
| F 22 | 4 1 41  | 29°0'52  | 6♈6   | 4°56  | 27°5  | 26°41 | 13°27 | 22°10  | 28°39 | 24°44  | 24°2  | 16°31  | 15°23 | 4°18 | 28°16  | F 22 |
| S 23 | 4 5 37  | 0♈1'23   | 19°31 | 6°29  | 28°18 | 27°20 | 13°29 | 22°8   | 28°42 | 24°43  | 24°5  | 16°27  | 15°20 | 4°25 | 28°14  | S 23 |
| S 24 | 4 9 34  | 1°1'55   | 2♈45  | 8°3   | 29°32 | 27°58 | 13°30 | 22°6   | 28°46 | 24°42  | 24°7  | 16°20  | 15°16 | 4°32 | 28°13  | S 24 |
| M 25 | 4 13 30 | 2°2'29   | 15°48 | 9°36  | 0♈46  | 28°37 | 13°31 | 22°4   | 28°49 | 24°41  | 24°9  | 16°10  | 15°13 | 4°38 | 28°12  | M 25 |
| T 26 | 4 17 27 | 3°3'05   | 28°40 | 11°9  | 2°0   | 29°16 | 13°32 | 22°2   | 28°52 | 24°40  | 24°12 | 15°58  | 15°10 | 4°45 | 28°10  | T 26 |
| W 27 | 4 21 23 | 4°3'42   | 11♈20 | 12°41 | 3°14  | 29°55 | 13°33 | 21°59  | 28°56 | 24°39  | 24°14 | 15°44  | 15°7  | 4°52 | 28°9   | W 27 |
| T 28 | 4 25 20 | 5°4'21   | 23°46 | 14°14 | 4°28  | 0♈33  | 13°34 | 21°57  | 28°59 | 24°38  | 24°17 | 15°30  | 15°4  | 4°58 | 28°7   | T 28 |
| F 29 | 4 29 17 | 6°5'01   | 6♈0   | 15°46 | 5°42  | 1°12  | 13°34 | 21°54  | 29°2  | 24°37  | 24°19 | 15°18  | 15°0  | 5°5  | 28°5   | F 29 |
| S 30 | 4 33 13 | 7♈5'42   | 18♈3  | 17°18 | 6♈57  | 1♈51  | 13°34 | 21°52  | 29°6  | 24°36  | 24°21 | 15°7   | 14°57 | 5♈12 | 28°3   | S 30 |

| Day  | ☉     | ☾     |      | ♀     |      | ♀     |      | ♂     |      | ♂     |      | ♂     |      | ♂     |      | ♂     |      | ♂    |       | ♂    |      | ♂     |       | ♂    |     | ♂    |     |
|------|-------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|------|------|-------|------|------|-------|-------|------|-----|------|-----|
|      | decl  | decl  | lat  | decl  | lat  | decl  | lat  | decl  | lat  | decl  | lat  | decl  | lat  | decl  | lat  | decl  | lat  | decl | lat   | decl | lat  | decl  | lat   | decl | lat | decl | lat |
| F 1  | 14s 8 | 18s21 | 5n 2 | 10s36 | 1n16 | 0n46  | 1n29 | 4s18  | 0n58 | 17n31 | 0n24 | 21n 8 | 0s25 | 23s34 | 0s11 | 20n29 | 0s39 | 4s32 | 14n27 | 4n48 | 5n19 | 16s10 | 13n36 | 7s 0 |     |      |     |
| S 2  | 14 28 | 18 18 | 4 44 | 11 17 | 1 10 | 0 19  | 1 31 | 4 33  | 0 58 | 17 29 | 0 25 | 21 8  | 0 25 | 23 35 | 0 11 | 20 29 | 0 39 | 4 32 | 14 27 | 4 50 | 5 21 | 16 9  | 13 35 | 7 1  |     |      |     |
| S 3  | 14 47 | 17 26 | 4 14 | 11 57 | 1 4  | 0s 8  | 1 33 | 4 48  | 0 58 | 17 28 | 0 25 | 21 8  | 0 25 | 23 35 | 0 11 | 20 29 | 0 39 | 4 33 | 14 27 | 4 52 | 5 22 | 16 9  | 13 34 | 7 2  |     |      |     |
| M 4  | 15 5  | 15 49 | 3 33 | 12 36 | 0 57 | 0 35  | 1 34 | 5 4   | 0 58 | 17 27 | 0 25 | 21 8  | 0 25 | 23 35 | 0 11 | 20 29 | 0 39 | 4 34 | 14 27 | 4 53 | 5 23 | 16 8  | 13 33 | 7 3  |     |      |     |
| T 5  | 15 24 | 13 31 | 2 43 | 13 14 | 0 51 | 1 3   | 1 36 | 5 19  | 0 57 | 17 26 | 0 25 | 21 8  | 0 25 | 23 35 | 0 11 | 20 29 | 0 39 | 4 34 | 14 27 | 4 53 | 5 24 | 16 7  | 13 33 | 7 4  |     |      |     |
| W 6  | 15 42 | 10 38 | 1 46 | 13 52 | 0 44 | 1 30  | 1 37 | 5 34  | 0 57 | 17 24 | 0 25 | 21 8  | 0 25 | 23 35 | 0 11 | 20 29 | 0 39 | 4 35 | 14 26 | 4 52 | 5 26 | 16 6  | 13 32 | 7 5  |     |      |     |
| T 7  | 16 0  | 7 17  | 0 43 | 14 30 | 0 38 | 1 57  | 1 39 | 5 49  | 0 57 | 17 23 | 0 26 | 21 8  | 0 25 | 23 35 | 0 11 | 20 30 | 0 39 | 4 36 | 14 26 | 4 52 | 5 27 | 16 5  | 13 31 | 7 5  |     |      |     |
| F 8  | 16 18 | 3 32  | 0s23 | 15 6  | 0 31 | 2 25  | 1 40 | 6 3   | 0 57 | 17 22 | 0 26 | 21 8  | 0 25 | 23 35 | 0 11 | 20 30 | 0 39 | 4 36 | 14 26 | 4 52 | 5 28 | 16 4  | 13 30 | 7 5  |     |      |     |
| S 9  | 16 35 | 0n27  | 1 29 | 15 42 | 0 24 | 2 52  | 1 41 | 6 18  | 0 56 | 17 21 | 0 26 | 21 8  | 0 25 | 23 35 | 0 11 | 20 30 | 0 39 | 4 37 | 14 26 | 4 53 | 5 29 | 16 3  | 13 30 | 7 6  |     |      |     |
| S 10 | 16 53 | 4 32  | 2 33 | 16 17 | 0 18 | 3 19  | 1 42 | 6 33  | 0 56 | 17 20 | 0 26 | 21 8  | 0 25 | 23 35 | 0 11 | 20 30 | 0 39 | 4 38 | 14 26 | 4 54 | 5 31 | 16 3  | 13 29 | 7 7  |     |      |     |
| M 11 | 17 9  | 8 30  | 3 30 | 16 51 | 0 11 | 3 47  | 1 43 | 6 48  | 0 56 | 17 19 | 0 26 | 21 8  | 0 24 | 23 35 | 0 11 | 20 30 | 0 39 | 4 38 | 14 26 | 4 56 | 5 32 | 16 2  | 13 28 | 7 7  |     |      |     |
| T 12 | 17 26 | 12 8  | 4 16 | 17 24 | 0 4  | 4 14  | 1 44 | 7 3   | 0 55 | 17 19 | 0 26 | 21 9  | 0 24 | 23 35 | 0 11 | 20 30 | 0 39 | 4 39 | 14 26 | 5 0  | 5 33 | 16 1  | 13 28 | 7 8  |     |      |     |
| W 13 | 17 42 | 15 10 | 4 48 | 17 57 | 0s 3 | 4 41  | 1 45 | 7 17  | 0 55 | 17 18 | 0 27 | 21 9  | 0 24 | 23 35 | 0 11 | 20 30 | 0 39 | 4 40 | 14 26 | 5 4  | 5 34 | 16 0  | 13 27 | 7 9  |     |      |     |
| T 14 | 17 58 | 17 20 | 5 2  | 18 28 | 0 9  | 5 9   | 1 46 | 7 32  | 0 55 | 17 17 | 0 27 | 21 9  | 0 24 | 23 35 | 0 11 | 20 30 | 0 39 | 4 40 | 14 26 | 5 8  | 5 35 | 15 59 | 13 27 | 7 9  |     |      |     |
| F 15 | 18 14 | 18 25 | 4 58 | 18 59 | 0 16 | 5 36  | 1 47 | 7 47  | 0 55 | 17 16 | 0 27 | 21 9  | 0 24 | 23 35 | 0 11 | 20 30 | 0 39 | 4 41 | 14 25 | 5 12 | 5 37 | 15 58 | 13 26 | 7 10 |     |      |     |
| S 16 | 18 29 | 18 19 | 4 34 | 19 29 | 0 23 | 6 3   | 1 47 | 8 1   | 0 54 | 17 16 | 0 27 | 21 10 | 0 24 | 23 35 | 0 11 | 20 30 | 0 39 | 4 42 | 14 25 | 5 15 | 5 38 | 15 57 | 13 26 | 7 11 |     |      |     |
| S 17 | 18 44 | 17 1  | 3 54 | 19 57 | 0 29 | 6 30  | 1 48 | 8 16  | 0 54 | 17 15 | 0 27 | 21 10 | 0 24 | 23 35 | 0 11 | 20 30 | 0 39 | 4 42 | 14 25 | 5 17 | 5 39 | 15 56 | 13 25 | 7 11 |     |      |     |
| M 18 | 18 59 | 14 40 | 2 58 | 20 25 | 0 36 | 6 57  | 1 48 | 8 30  | 0 54 | 17 15 | 0 28 | 21 10 | 0 24 | 23 35 | 0 11 | 20 30 | 0 39 | 4 43 | 14 25 | 5 18 | 5 40 | 15 55 | 13 25 | 7 12 |     |      |     |
| T 19 | 19 14 | 11 27 | 1 53 | 20 52 | 0 42 | 7 24  | 1 48 | 8 45  | 0 53 | 17 14 | 0 28 | 21 10 | 0 24 | 23 35 | 0 11 | 20 30 | 0 39 | 4 43 | 14 25 | 5 18 | 5 42 | 15 55 | 13 24 | 7 13 |     |      |     |
| W 20 | 19 28 | 7 38  | 0 41 | 21 17 | 0 49 | 7 50  | 1 49 | 8 59  | 0 53 | 17 14 | 0 28 | 21 11 | 0 24 | 23 35 | 0 12 | 20 31 | 0 39 | 4 44 | 14 25 | 5 18 | 5 43 | 15 54 | 13 24 | 7 13 |     |      |     |
| T 21 | 19 41 | 3 27  | 0n32 | 21 42 | 0 55 | 8 17  | 1 49 | 9 13  | 0 53 | 17 13 | 0 28 | 21 11 | 0 24 | 23 35 | 0 12 | 20 31 | 0 39 | 4 45 | 14 25 | 5 18 | 5 44 | 15 53 | 13 23 | 7 14 |     |      |     |
| F 22 | 19 55 | 0s52  | 1 42 | 22 5  | 1 1  | 8 43  | 1 49 | 9 28  | 0 52 | 17 13 | 0 28 | 21 12 | 0 24 | 23 35 | 0 12 | 20 31 | 0 39 | 4 45 | 14 25 | 5 19 | 5 45 | 15 52 | 13 23 | 7 15 |     |      |     |
| S 23 | 20 8  | 5 4   | 2 45 | 22 28 | 1 7  | 9 10  | 1 49 | 9 42  | 0 52 | 17 13 | 0 29 | 21 12 | 0 24 | 23 35 | 0 12 | 20 31 | 0 39 | 4 46 | 14 25 | 5 20 | 5 47 | 15 51 | 13 22 | 7 15 |     |      |     |
| S 24 | 20 20 | 8 59  | 3 39 | 22 49 | 1 13 | 9 36  | 1 49 | 9 56  | 0 52 | 17 12 | 0 29 | 21 12 | 0 24 | 23 35 | 0 12 | 20 31 | 0 39 | 4 46 | 14 25 | 5 23 | 5 48 | 15 50 | 13 22 | 7 16 |     |      |     |
| M 25 | 20 32 | 12 24 | 4 20 | 23 9  | 1 18 | 10 2  | 1 49 | 10 10 | 0 51 | 17 12 | 0 29 | 21 13 | 0 24 | 23 36 | 0 12 | 20 31 | 0 39 | 4 47 | 14 25 | 5 27 | 5 49 | 15 49 | 13 22 | 7 16 |     |      |     |
| T 26 | 20 44 | 15 10 | 4 47 | 23 28 | 1 24 | 10 28 | 1 48 | 10 24 | 0 51 | 17 12 | 0 29 | 21 13 | 0 24 | 23 36 | 0 12 | 20 31 | 0 39 | 4 47 | 14 25 | 5 32 | 5 50 | 15 48 | 13 21 | 7 17 |     |      |     |
| W 27 | 20 56 | 17 10 | 4 59 | 23 46 | 1 29 | 10 53 | 1 48 | 10 38 | 0 51 | 17 12 | 0 29 | 21 14 | 0 23 | 23 36 | 0 12 | 20 32 | 0 39 | 4 48 | 14 25 | 5 37 | 5 51 | 15 47 | 13 21 | 7 18 |     |      |     |
| T 28 | 21 7  | 18 19 | 4 57 | 24 2  | 1 34 | 11 18 | 1 47 | 10 52 | 0 50 | 17 12 | 0 30 | 21 14 | 0 23 | 23 36 | 0 12 | 20 32 | 0 39 | 4 48 | 14 25 | 5 42 | 5 53 | 15 46 | 13 21 | 7 18 |     |      |     |
| F 29 | 21 18 | 18 35 | 4 41 | 24 18 | 1 39 | 11 43 | 1 47 | 11 5  | 0 50 | 17 12 | 0 30 | 21 15 | 0 23 | 23 36 | 0 12 | 20 32 | 0 39 | 4 49 | 14 25 | 5 47 | 5 54 | 15 45 | 13 20 | 7 19 |     |      |     |
| S 30 | 21s28 | 18s 1 | 4n13 | 24s32 | 1s44 | 12s 8 | 1n46 | 11s19 | 0n50 | 17n12 | 0n30 | 21n15 | 0s23 | 23s36 | 0s12 | 20n32 | 0s39 | 4s49 | 14n25 | 5n51 | 5n55 | 15s45 | 13n20 | 7s20 |     |      |     |

ASTRODIENST EPHEMERIS for the year 2239  
geocentric

DECEMBER 2239

00:00 UT

| Day  | Sid.t   | ☉         | ☽       | ♀       | ♂       | ♂       | ♂       | ♂       | ♂       | ♂       | ♂       | ♂       | ♂       | ♂      | ♂       | Day  |
|------|---------|-----------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|--------|---------|------|
| S 1  | 4 37 10 | 8° 6'25   | 29° 58' | 18° 50' | 8° 11'  | 2° 29'  | 13° 34' | 21° 49' | 29° 9'  | 24° 35' | 24° 24' | 14° 59' | 14° 54' | 5° 18' | 28° 1'  | S 1  |
| M 2  | 4 41 6  | 9° 7'08   | 11° 47' | 20° 22' | 9° 25'  | 3° 8'   | 13° 34' | 21° 46' | 29° 13' | 24° 34' | 24° 26' | 14° 53' | 14° 51' | 5° 25' | 27° 59' | M 2  |
| T 3  | 4 45 3  | 10° 7'53  | 23° 34' | 21° 54' | 10° 39' | 3° 47'  | 13° 34' | 21° 43' | 29° 16' | 24° 33' | 24° 28' | 14° 51' | 14° 48' | 5° 32' | 27° 57' | T 3  |
| W 4  | 4 48 59 | 11° 8'38  | 5° 26'  | 23° 25' | 11° 53' | 4° 26'  | 13° 33' | 21° 40' | 29° 20' | 24° 32' | 24° 31' | 14° 50' | 14° 45' | 5° 38' | 27° 55' | W 4  |
| T 5  | 4 52 56 | 12° 9'25  | 17° 27' | 24° 56' | 13° 8'  | 5° 4'   | 13° 32' | 21° 37' | 29° 23' | 24° 31' | 24° 33' | 14° 50' | 14° 41' | 5° 45' | 27° 53' | T 5  |
| F 6  | 4 56 52 | 13° 10'12 | 29° 43' | 26° 27' | 14° 22' | 5° 43'  | 13° 31' | 21° 33' | 29° 27' | 24° 30' | 24° 35' | 14° 49' | 14° 38' | 5° 52' | 27° 50' | F 6  |
| S 7  | 5 0 49  | 14° 11'00 | 12° 19' | 27° 58' | 15° 37' | 6° 22'  | 13° 30' | 21° 30' | 29° 30' | 24° 28' | 24° 38' | 14° 47' | 14° 35' | 5° 58' | 27° 48' | S 7  |
| S 8  | 5 4 46  | 15° 11'50 | 25° 19' | 29° 29' | 16° 51' | 7° 1'   | 13° 29' | 21° 27' | 29° 34' | 24° 27' | 24° 40' | 14° 43' | 14° 32' | 6° 5'  | 27° 45' | S 8  |
| M 9  | 5 8 42  | 16° 12'40 | 8° 48'  | 0° 59'  | 18° 5'  | 7° 40'  | 13° 27' | 21° 23' | 29° 37' | 24° 26' | 24° 42' | 14° 36' | 14° 29' | 6° 12' | 27° 43' | M 9  |
| T 10 | 5 12 39 | 17° 13'31 | 22° 44' | 2° 28'  | 19° 20' | 8° 18'  | 13° 26' | 21° 20' | 29° 41' | 24° 25' | 24° 45' | 14° 26' | 14° 26' | 6° 18' | 27° 40' | T 10 |
| W 11 | 5 16 35 | 18° 14'23 | 7° 11'  | 3° 58'  | 20° 35' | 8° 57'  | 13° 24' | 21° 16' | 29° 45' | 24° 24' | 24° 47' | 14° 14' | 14° 22' | 6° 25' | 27° 37' | W 11 |
| T 12 | 5 20 32 | 19° 15'16 | 21° 47' | 5° 27'  | 21° 49' | 9° 36'  | 13° 21' | 21° 12' | 29° 48' | 24° 22' | 24° 49' | 14° 2'  | 14° 19' | 6° 32' | 27° 35' | T 12 |
| F 13 | 5 24 28 | 20° 16'10 | 6° 54'  | 6° 55'  | 23° 4'  | 10° 15' | 13° 19' | 21° 8'  | 29° 52' | 24° 21' | 24° 51' | 13° 51' | 14° 16' | 6° 39' | 27° 32' | F 13 |
| S 14 | 5 28 25 | 21° 17'05 | 21° 37' | 8° 22'  | 24° 18' | 10° 54' | 13° 17' | 21° 5'  | 29° 55' | 24° 20' | 24° 54' | 13° 41' | 14° 13' | 6° 45' | 27° 29' | S 14 |
| S 15 | 5 32 21 | 22° 18'01 | 6° 27'  | 9° 49'  | 25° 33' | 11° 33' | 13° 14' | 21° 1'  | 29° 59' | 24° 18' | 24° 56' | 13° 34' | 14° 10' | 6° 52' | 27° 26' | S 15 |
| M 16 | 5 36 18 | 23° 18'58 | 21° 4'  | 11° 14' | 26° 48' | 12° 11' | 13° 11' | 20° 57' | 0° 3'   | 24° 17' | 24° 58' | 13° 30' | 14° 6'  | 6° 59' | 27° 23' | M 16 |
| T 17 | 5 40 15 | 24° 19'57 | 5° 12'  | 12° 39' | 28° 2'  | 12° 50' | 13° 8'  | 20° 52' | 0° 6'   | 24° 15' | 25° 0'  | 13° 29' | 14° 3'  | 7° 5'  | 27° 20' | T 17 |
| W 18 | 5 44 11 | 25° 20'56 | 19° 24' | 14° 1'  | 29° 17' | 13° 29' | 13° 5'  | 20° 48' | 0° 10'  | 24° 14' | 25° 2'  | 13° 29' | 14° 0'  | 7° 12' | 27° 16' | W 18 |
| T 19 | 5 48 8  | 26° 21'57 | 3° 5'   | 15° 23' | 0° 32'  | 14° 8'  | 13° 1'  | 20° 44' | 0° 14'  | 24° 13' | 25° 4'  | 13° 29' | 13° 57' | 7° 19' | 27° 13' | T 19 |
| F 20 | 5 52 4  | 27° 22'58 | 16° 29' | 16° 42' | 1° 47'  | 14° 47' | 12° 57' | 20° 40' | 0° 17'  | 24° 11' | 25° 7'  | 13° 27' | 13° 54' | 7° 25' | 27° 10' | F 20 |
| S 21 | 5 56 1  | 28° 24'01 | 29° 38' | 17° 59' | 3° 2'   | 15° 26' | 12° 54' | 20° 35' | 0° 21'  | 24° 10' | 25° 9'  | 13° 24' | 13° 51' | 7° 32' | 27° 6'  | S 21 |
| S 22 | 5 59 57 | 29° 25'04 | 12° 33' | 19° 13' | 4° 16'  | 16° 5'  | 12° 50' | 20° 31' | 0° 24'  | 24° 8'  | 25° 11' | 13° 17' | 13° 47' | 7° 39' | 27° 3'  | S 22 |
| M 23 | 6 3 54  | 0° 26'09  | 25° 16' | 20° 25' | 5° 31'  | 16° 44' | 12° 45' | 20° 27' | 0° 28'  | 24° 7'  | 25° 13' | 13° 8'  | 13° 44' | 7° 45' | 26° 59' | M 23 |
| T 24 | 6 7 50  | 1° 27'14  | 7° 49'  | 21° 32' | 6° 46'  | 17° 23' | 12° 41' | 20° 22' | 0° 32'  | 24° 5'  | 25° 15' | 12° 56' | 13° 41' | 7° 52' | 26° 56' | T 24 |
| W 25 | 6 11 47 | 2° 28'20  | 20° 12' | 22° 36' | 8° 1'   | 18° 2'  | 12° 36' | 20° 17' | 0° 35'  | 24° 3'  | 25° 17' | 12° 42' | 13° 38' | 7° 59' | 26° 52' | W 25 |
| T 26 | 6 15 44 | 3° 29'26  | 2° 25'  | 23° 34' | 9° 16'  | 18° 41' | 12° 32' | 20° 13' | 0° 39'  | 24° 2'  | 25° 19' | 12° 29' | 13° 35' | 8° 5'  | 26° 48' | T 26 |
| F 27 | 6 19 40 | 4° 30'33  | 14° 30' | 24° 27' | 10° 31' | 19° 20' | 12° 27' | 20° 8'  | 0° 43'  | 24° 0'  | 25° 21' | 12° 16' | 13° 32' | 8° 12' | 26° 45' | F 27 |
| S 28 | 6 23 37 | 5° 31'41  | 26° 27' | 25° 14' | 11° 46' | 19° 59' | 12° 22' | 20° 4'  | 0° 46'  | 23° 59' | 25° 23' | 12° 5'  | 13° 28' | 8° 19' | 26° 41' | S 28 |
| S 29 | 6 27 33 | 6° 32'48  | 8° 18'  | 25° 53' | 13° 1'  | 20° 38' | 12° 16' | 19° 59' | 0° 50'  | 23° 57' | 25° 25' | 11° 57' | 13° 25' | 8° 25' | 26° 37' | S 29 |
| M 30 | 6 31 30 | 7° 33'56  | 20° 5'  | 26° 24' | 14° 16' | 21° 17' | 12° 11' | 19° 54' | 0° 53'  | 23° 56' | 25° 27' | 11° 52' | 13° 22' | 8° 32' | 26° 33' | M 30 |
| T 31 | 6 35 26 | 8° 35'04  | 1° 51'  | 26° 34' | 15° 31' | 21° 55' | 12° 5'  | 19° 49' | 0° 57'  | 23° 54' | 25° 29' | 11° 49' | 13° 19' | 8° 39' | 26° 29' | T 31 |

| Day  | ☉     | ☽     | ♀    | ♂     | ♂    | ♂     | ♂    | ♂     | ♂    | ♂     | ♂    | ♂     | ♂    | ♂     | ♂    | ♂     |
|------|-------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|
|      | decl  | decl  | lat  | decl  | lat  | decl  | lat  | decl  | lat  | decl  | lat  | decl  | lat  | decl  | lat  | lat   |
| S 1  | 21s38 | 16s39 | 3n34 | 24s44 | 1s49 | 12s33 | 1n46 | 11s33 | 0n49 | 17n13 | 0n30 | 21n16 | 0s23 | 23s36 | 0s12 | 20n32 |
| M 2  | 21 47 | 14 35 | 2 45 | 24 56 | 1 53 | 12 57 | 1 45 | 11 46 | 0 49 | 17 13 | 0 30 | 21 16 | 0 23 | 23 36 | 0 12 | 20 32 |
| T 3  | 21 56 | 11 55 | 1 50 | 25 6  | 1 57 | 13 21 | 1 44 | 12 0  | 0 49 | 17 13 | 0 31 | 21 17 | 0 23 | 23 36 | 0 12 | 20 33 |
| W 4  | 22 5  | 8 44  | 0 50 | 25 15 | 2 1  | 13 45 | 1 43 | 12 13 | 0 48 | 17 13 | 0 31 | 21 17 | 0 23 | 23 36 | 0 12 | 20 33 |
| T 5  | 22 13 | 5 10  | 0s14 | 25 23 | 2 4  | 14 8  | 1 42 | 12 26 | 0 48 | 17 14 | 0 31 | 21 18 | 0 23 | 23 36 | 0 12 | 20 33 |
| F 6  | 22 21 | 1 18  | 1 18 | 25 29 | 2 7  | 14 31 | 1 41 | 12 40 | 0 48 | 17 14 | 0 31 | 21 18 | 0 23 | 23 36 | 0 12 | 20 33 |
| S 7  | 22 28 | 2n43  | 2 20 | 25 34 | 2 10 | 14 54 | 1 40 | 12 53 | 0 47 | 17 15 | 0 31 | 21 19 | 0 23 | 23 36 | 0 12 | 20 33 |
| S 8  | 22 35 | 6 44  | 3 17 | 25 37 | 2 13 | 15 16 | 1 39 | 13 6  | 0 47 | 17 15 | 0 32 | 21 20 | 0 23 | 23 36 | 0 12 | 20 34 |
| M 9  | 22 42 | 10 33 | 4 4  | 25 39 | 2 15 | 15 38 | 1 38 | 13 19 | 0 46 | 17 16 | 0 32 | 21 20 | 0 23 | 23 36 | 0 12 | 20 34 |
| T 10 | 22 48 | 13 55 | 4 39 | 25 40 | 2 17 | 15 59 | 1 36 | 13 32 | 0 46 | 17 17 | 0 32 | 21 21 | 0 23 | 23 36 | 0 12 | 20 34 |
| W 11 | 22 53 | 16 34 | 4 58 | 25 39 | 2 18 | 16 20 | 1 35 | 13 44 | 0 46 | 17 18 | 0 32 | 21 21 | 0 22 | 23 36 | 0 12 | 20 34 |
| T 12 | 22 58 | 18 12 | 4 58 | 25 37 | 2 19 | 16 41 | 1 34 | 13 57 | 0 45 | 17 18 | 0 33 | 21 22 | 0 22 | 23 36 | 0 12 | 20 35 |
| F 13 | 23 3  | 18 37 | 4 37 | 25 33 | 2 20 | 17 1  | 1 32 | 14 10 | 0 45 | 17 19 | 0 33 | 21 23 | 0 22 | 23 36 | 0 12 | 20 35 |
| S 14 | 23 7  | 17 45 | 3 58 | 25 28 | 2 20 | 17 21 | 1 31 | 14 22 | 0 44 | 17 20 | 0 33 | 21 23 | 0 22 | 23 36 | 0 12 | 20 35 |
| S 15 | 23 11 | 15 41 | 3 2  | 25 22 | 2 19 | 17 41 | 1 29 | 14 35 | 0 44 | 17 21 | 0 33 | 21 24 | 0 22 | 23 36 | 0 12 | 20 35 |
| M 16 | 23 14 | 12 38 | 1 56 | 25 14 | 2 18 | 18 0  | 1 27 | 14 47 | 0 44 | 17 22 | 0 33 | 21 25 | 0 22 | 23 36 | 0 12 | 20 35 |
| T 17 | 23 17 | 8 52  | 0 43 | 25 4  | 2 17 | 18 18 | 1 26 | 14 59 | 0 43 | 17 23 | 0 34 | 21 26 | 0 22 | 23 36 | 0 12 | 20 36 |
| W 18 | 23 19 | 4 40  | 0n31 | 24 54 | 2 14 | 18 36 | 1 24 | 15 11 | 0 43 | 17 24 | 0 34 | 21 26 | 0 22 | 23 36 | 0 12 | 20 36 |
| T 19 | 23 21 | 0 20  | 1 42 | 24 42 | 2 11 | 18 54 | 1 22 | 15 23 | 0 42 | 17 26 | 0 34 | 21 27 | 0 22 | 23 36 | 0 12 | 20 36 |
| F 20 | 23 23 | 3s56  | 2 45 | 24 28 | 2 8  | 19 11 | 1 20 | 15 35 | 0 42 | 17 27 | 0 34 | 21 28 | 0 22 | 23 36 | 0 12 | 20 36 |
| S 21 | 23 24 | 7 55  | 3 39 | 24 14 | 2 3  | 19 27 | 1 18 | 15 47 | 0 41 | 17 28 | 0 34 | 21 29 | 0 22 | 23 36 | 0 12 | 20 37 |
| S 22 | 23 24 | 11 27 | 4 20 | 23 58 | 1 58 | 19 43 | 1 16 | 15 58 | 0 41 | 17 29 | 0 35 | 21 29 | 0 21 | 23 36 | 0 12 | 20 37 |
| M 23 | 23 24 | 14 24 | 4 47 | 23 42 | 1 51 | 19 59 | 1 14 | 16 10 | 0 40 | 17 31 | 0 35 | 21 30 | 0 21 | 23 36 | 0 12 | 20 37 |
| T 24 | 23 24 | 16 39 | 5 0  | 23 24 | 1 44 | 20 13 | 1 12 | 16 21 | 0 40 | 17 32 | 0 35 | 21 31 | 0 21 | 23 36 | 0 12 | 20 37 |
| W 25 | 23 23 | 18 5  | 4 59 | 23 6  | 1 36 | 20 28 | 1 10 | 16 33 | 0 40 | 17 34 | 0 35 | 21 32 | 0 21 | 23 36 | 0 12 | 20 38 |
| T 26 | 23 22 | 18 39 | 4 44 | 22 47 | 1 27 | 20 41 | 1 8  | 16 44 | 0 39 | 17 35 | 0 35 | 21 32 | 0 21 | 23 36 | 0 12 | 20 38 |
| F 27 | 23 20 | 18 23 | 4 16 | 22 27 | 1 17 | 20 55 | 1 6  | 16 55 | 0 39 | 17 37 | 0 36 | 21 33 | 0 21 | 23 36 | 0 12 | 20 38 |
| S 28 | 23 17 | 17 17 | 3 37 | 22 8  | 1 5  | 21 7  | 1 3  | 17 6  | 0 38 | 17 38 | 0 36 | 21 34 | 0 21 | 23 36 | 0 12 | 20 39 |
| S 29 | 23 15 | 15 27 | 2 49 | 21 48 | 0 52 | 21 19 | 1 1  | 17 17 | 0 38 | 17 40 | 0 36 | 21 35 | 0 21 | 23 36 | 0 12 | 20 39 |
| M 30 | 23 11 | 12 58 | 1 53 | 21 28 | 0 39 | 21 30 | 0 59 | 17 27 | 0 37 | 17 42 | 0 36 | 21 35 | 0 21 | 23 36 | 0 12 | 20 39 |
| T 31 | 23s 8 | 9s58  | 0n53 | 21s 9 | 0s23 | 21s41 | 0n57 | 17s38 | 0n37 | 17n44 | 0n36 | 21n36 | 0s21 | 23s36 | 0s12 | 20n39 |

Julian Day Number = 2539171.5, Delta T = 207.40 sec  
Ecliptic obliquity = 23°24'20", Nutation = - 0°00'05", out-of-bounds declination in red  
Ayanamsha: Fagan/Bradley = 28°05'36", Lahiri = 27°12'36"