



# Astrodienst Ephemeris Tables for the year 2109

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 2109  
geocentric

JANUARY 2109

00:00 UT

Day	Sid.t	☉	☽	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓	♈	♉	Day
T 1	6 42 15	10°35'00	5°3' 3	8°R28	26°29	15°36	21°R10	29°321	24°R52	6°59	11°R 7	26°R14	26°53	18°Y24	15°39	T 1
W 2	6 46 11	11°26'10	18°47	7°3' 8	27°44	16°23	21°2	29°28	24°50	7° 0	11°R 6	26°1	26°50	18°31	15°43	W 2
T 3	6 50 8	12°27'20	2°11	5°52	29° 0	17°10	20°54	29°35	24°49	7° 0	11° 6	25°50	26°46	18°38	15°47	T 3
F 4	6 54 4	13°28'31	15°14	4°42	0°35	17°57	20°46	29°42	24°47	7° 0	11° 5	25°41	26°43	18°44	15°51	F 4
S 5	6 58 1	14°29'41	27°56	3°41	1°31	18°45	20°38	29°49	24°46	7° 0	11° 5	25°35	26°40	18°51	15°55	S 5
S 6	7 1 57	15°30'51	10°18	2°49	2°46	19°32	20°30	29°56	24°44	7° 0	11° 5	25°32	26°37	18°57	15°59	S 6
M 7	7 5 54	16°32'00	22°25	2° 6	4° 1	20°19	20°22	0°3	24°43	7° 0	11° 4	25°D31	26°34	19° 4	16° 3	M 7
T 8	7 9 50	17°33'10	4°20	1°34	5°17	21° 6	20°14	0°10	24°42	7°R 0	11° 4	25°31	26°30	19°11	16° 7	T 8
W 9	7 13 47	18°34'18	16° 9	1°12	6°32	21°53	20° 6	0°17	24°41	7° 0	11° 3	25°R31	26°27	19°17	16°12	W 9
T 10	7 17 44	19°35'27	27°57	1° 0	7°48	22°41	19°58	0°24	24°40	7° 0	11° 3	25°31	26°24	19°24	16°16	T 10
F 11	7 21 40	20°36'35	9°50	0°D57	9° 3	23°28	19°50	0°31	24°38	7° 0	11° 3	25°29	26°21	19°31	16°20	F 11
S 12	7 25 37	21°37'43	21°54	1° 2	10°18	24°15	19°42	0°38	24°37	7° 0	11° 3	25°24	26°18	19°37	16°24	S 12
S 13	7 29 33	22°38'50	4°11	1°16	11°34	25° 2	19°34	0°45	24°36	7° 0	11° 2	25°17	26°15	19°44	16°29	S 13
M14	7 33 30	23°39'57	16°47	1°37	12°49	25°49	19°25	0°52	24°35	7° 0	11° 2	25° 8	26°11	19°51	16°33	M14
T 15	7 37 26	24°41'03	29°42	2° 5	14° 4	26°37	19°17	1° 0	24°35	6°59	11° 2	24°58	26° 8	19°57	16°37	T 15
W16	7 41 23	25°42'09	12°56	2°39	15°20	27°24	19° 9	1° 7	24°34	6°59	11° 2	24°47	26° 5	20° 4	16°42	W16
T 17	7 45 19	26°43'14	26°29	3°18	16°35	28°11	19° 1	1°14	24°33	6°59	11° 1	24°36	26° 2	20°11	16°46	T 17
F 18	7 49 16	27°44'19	10°18	4° 2	17°51	28°58	18°53	1°21	24°32	6°59	11° 1	24°28	25°59	20°17	16°51	F 18
S 19	7 53 13	28°45'23	24°18	4°51	19° 6	29°46	18°46	1°28	24°31	6°58	11° 1	24°22	25°55	20°24	16°55	S 19
S 20	7 57 9	29°46'27	8°26	5°43	20°21	0°33	18°38	1°35	24°31	6°58	11° 1	24°18	25°52	20°31	16°59	S 20
M21	8 1 6	0°47'31	22°37	6°40	21°37	1°20	18°30	1°42	24°30	6°57	11° 1	24°D17	25°49	20°37	17° 4	M21
T 22	8 5 2	1°48'34	6°49	7°39	22°52	2° 7	18°22	1°49	24°30	6°57	11° 1	24°17	25°46	20°44	17° 8	T 22
W23	8 8 59	2°49'37	20°59	8°41	24° 7	2°54	18°15	1°57	24°29	6°57	11° 1	24°19	25°43	20°51	17°13	W23
T 24	8 12 55	3°50'39	5°16	9°46	25°23	3°42	18° 7	2° 4	24°29	6°56	11° 1	24°R19	25°40	20°57	17°17	T 24
F 25	8 16 52	4°51'42	19° 9	10°54	26°38	4°29	18° 0	2°11	24°28	6°55	11°D 1	24°18	25°36	21° 4	17°22	F 25
S 26	8 20 48	5°52'43	3°16	12° 3	27°54	5°16	17°52	2°18	24°28	6°55	11° 1	24°15	25°33	21°11	17°26	S 26
S 27	8 24 45	6°53'45	16°57	13°14	29° 9	6° 3	17°45	2°25	24°27	6°54	11° 1	24°10	25°30	21°17	17°31	S 27
M28	8 28 42	7°54'45	0°39	14°28	0°24	6°50	17°38	2°32	24°27	6°54	11° 1	24° 3	25°27	21°24	17°36	M28
T 29	8 32 38	8°55'46	14°11	15°43	1°40	7°37	17°31	2°39	24°27	6°53	11° 1	23°55	25°24	21°31	17°40	T 29
W30	8 36 35	9°56'45	27°29	16°59	2°55	8°25	17°24	2°47	24°27	6°52	11° 1	23°46	25°21	21°37	17°45	W30
T 31	8 40 31	10°57'43	10°33	18°17	4°10	9°12	17°17	2°54	24°27	6°51	11°R 1	23°39	25°17	21°44	17°49	T 31

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	
T 1	23s 1	18s22 4n58	20s30 2n40	23s 7 0n16	17s16 1s10	21n58 0n13	20s32 0s16	18n44 0s15	1s30 1n24	0s22 16s17	1n30 1n14	5n28 10s 7	6n18 6 17		
W 2	22 56	17 31 4 38	20 22 2 52	23 11 0 14	17 1 1 10	21 59 0 13	20 30 0 16	18 44 0 15	1 30 1 24	0 22 16 17	1 35 1 16	5 29 10 6	6 17 6 17		
T 3	22 50	15 42 4 3	20 17 3 1	23 14 0 11	16 47 1 9	22 1 0 13	20 29 0 16	18 43 0 15	1 30 1 24	0 22 16 17	1 39 1 17	5 31 10 5	6 17 6 17		
F 4	22 44	13 7 3 17	20 13 3 8	23 17 0 9	16 32 1 9	22 2 0 13	20 28 0 16	18 43 0 15	1 30 1 24	0 22 16 16	1 43 1 18	5 33 10 4	6 17 6 17		
S 5	22 38	9 59 2 21	20 10 3 12	23 19 0 6	16 17 1 8	22 3 0 13	20 26 0 16	18 43 0 14	1 30 1 24	0 22 16 16	1 45 1 19	5 35 10 3	6 17 6 17		
S 6	22 31	6 28 1 20	20 9 3 14	23 20 0 4	16 2 1 8	22 5 0 13	20 25 0 16	18 42 0 14	1 30 1 24	0 21 16 16	1 47 1 21	5 36 10 2	6 16 6 16		
M 7	22 24	2 45 0 17	20 10 3 14	23 21 0 1	15 46 1 8	22 6 0 13	20 23 0 16	18 42 0 14	1 30 1 24	0 21 16 15	1 47 1 22	5 38 10 1	6 16 6 16		
T 8	22 16	1n 0 0s47	20 13 3 12	23 20 0s 1	15 31 1 7	22 7 0 14	20 22 0 16	18 42 0 14	1 30 1 24	0 21 16 15	1 47 1 23	5 40 10 0	6 16 6 16		
W 9	22 8	4 41 1 48	20 16 3 9	23 20 0 4	15 15 1 7	22 9 0 14	20 20 0 16	18 42 0 14	1 30 1 24	0 21 16 15	1 47 1 25	5 42 9 59	6 16 6 16		
T 10	22 0	8 11 2 44	20 21 3 4	23 18 0 6	14 59 1 6	22 10 0 14	20 19 0 16	18 41 0 14	1 29 1 24	0 21 16 14	1 47 1 26	5 43 9 58	6 16 6 16		
F 11	21 51	11 22 3 34	20 28 2 58	23 16 0 9	14 43 1 6	22 11 0 14	20 18 0 16	18 41 0 14	1 29 1 24	0 20 16 14	1 48 1 27	5 45 9 57	6 15 6 15		
S 12	21 41	14 8 4 14	20 35 2 51	23 13 0 11	14 27 1 5	22 13 0 14	20 16 0 16	18 41 0 14	1 29 1 24	0 20 16 14	1 49 1 28	5 47 9 56	6 15 6 15		
S 13	21 31	16 19 4 44	20 42 2 43	23 9 0 14	14 11 1 5	22 14 0 14	20 15 0 17	18 41 0 14	1 29 1 24	0 20 16 13	1 52 1 30	5 49 9 55	6 15 6 15		
M14	21 21	17 46 5 1	20 50 2 34	23 4 0 16	13 55 1 4	22 15 0 14	20 13 0 17	18 40 0 14	1 29 1 24	0 20 16 13	1 56 1 31	5 50 9 54	6 15 6 15		
T 15	21 10	18 22 5 3	20 59 2 25	22 59 0 18	13 38 1 4	22 16 0 14	20 12 0 17	18 40 0 14	1 29 1 24	0 19 16 13	2 0 1 32	5 52 9 53	6 15 6 15		
W16	20 59	18 0 4 49	21 8 2 16	22 53 0 21	13 22 1 3	22 18 0 15	20 10 0 17	18 40 0 14	1 29 1 24	0 19 16 12	2 4 1 33	5 54 9 52	6 14 6 14		
T 17	20 48	16 36 4 19	21 16 2 7	22 47 0 23	13 5 1 3	22 19 0 15	20 9 0 17	18 40 0 14	1 29 1 24	0 19 16 12	2 8 1 35	5 56 9 51	6 14 6 14		
F 18	20 36	14 14 3 33	21 25 1 57	22 39 0 25	12 48 1 2	22 20 0 15	20 7 0 17	18 40 0 14	1 28 1 25	0 18 16 12	2 12 1 36	5 57 9 49	6 14 6 14		
S 19	20 24	11 0 2 34	21 33 1 47	22 31 0 28	12 31 1 2	22 21 0 15	20 6 0 17	18 39 0 14	1 28 1 25	0 18 16 11	2 14 1 37	5 59 9 48	6 14 6 14		
S 20	20 11	7 6 1 24	21 41 1 37	22 23 0 30	12 14 1 1	22 23 0 15	20 4 0 17	18 39 0 14	1 28 1 25	0 18 16 11	2 16 1 38	6 1 9 47	6 14 6 14		
M21	19 58	2 47 0 9	21 48 1 27	22 13 0 32	11 56 1 1	22 24 0 15	20 3 0 17	18 39 0 14	1 28 1 25	0 18 16 11	2 16 1 40	6 3 9 46	6 14 6 14		
T 22	19 45	1s41 1n 7	21 55 1 18	22 3 0 35	11 39 1 0	22 25 0 15	20 1 0 17	18 39 0 14	1 28 1 25	0 17 16 10	2 16 1 41	6 4 9 45	6 14 6 14		
W23	19 31	6 2 2 19	22 1 1 8	21 52 0 37	11 22 1 0	22 26 0 15	20 0 0 17	18 39 0 14	1 27 1 25	0 17 16 10	2 16 1 42	6 6 9 44	6 13 6 13		
T 24	19 17	10 2 3 22	22 6 0 58	21 41 0 39	11 4 0 59	22 27 0 16	19 58 0 17	18 39 0 14	1 27 1 25	0 17 16 10	2 15 1 43	6 8 9 42	6 13 6 13		
F 25	19 2	13 27 4 12	22 10 0 49	21 29 0 41	10 46 0 59	22 28 0 16	19 57 0 17	18 39 0 14	1 27 1 25	0 16 16 9	2 16 1 45	6 10 9 41	6 13 6 13		
S 26	18 47	16 4 4 48	22 13 0 39	21 16 0 43	10 29 0 58	22 30 0 16	19 55 0 17	18 39 0 14	1 27 1 25	0 16 16 9	2 17 1 46	6 11 9 40	6 13 6 13		
S 27	18 32	17 43 5 6	22 16 0 30	21 3 0 45	10 11 0 58	22 31 0 16	19 53 0 18	18 39 0 14	1 26 1 25	0 16 16 9	2 19 1 47	6 13 9 39	6 13 6 13		
M28	18 17	18 19 5 6	22 17 0 21	20 49 0 47	9 53 0 57	22 32 0 16	19 52 0 18	18 39 0 14	1 26 1 25	0 15 16 8	2 22 1 48	6 15 9 37	6 13 6 13		
T 29	18 1	17 52 4 49	22 18 0 12	20 35 0 49	9 35 0 57	22 33 0 16	19 50 0 18	18 39 0 14	1 26 1 25	0 15 16 8	2 25 1 50	6 16 9 36	6 13 6 13		
W30	17 45	16 27 4 17	22 17 0 4	20 19 0 51	9 17 0 56	22 34 0 16	19 49 0 18	18 39 0 14	1 25 1 25	0 15 16 7	2 28 1 51	6 18 9 35	6 13 6 13		
T 31	17s28 14s11	3n32 22s15	0s 5 20s 4	0s53 8s58	0s55 22n35	0n16 19s47	0s18 18n39	0s14 1s25	1n25 0s14	16s 7 2n31	1n52 6n20	9s34 6n13			

Julian Day Number = 2491356.5, Delta T = 97.51 sec  
Ecliptic obliquity = 23°25'20", Nutation = - 0°00'00", out-of-bounds declination in red  
Ayanamsha: Fagan/Bradley = 26°15'48", Lahiri = 25°22'48"

# ASTRODIENST EPHEMERIS for the year 2109

## geocentric

FEBRUARY 2109

00:00 UT

Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
F 1	8 44 28	11 <sup>58</sup> 41	23 <sup>20</sup>	19 <sup>36</sup>	5 <sup>26</sup>	9 <sup>59</sup>	17 <sup>10</sup>	3 <sup>1</sup>	24 <sup>27</sup>	6 <sup>51</sup>	11 <sup>8</sup>	23 <sup>33</sup>	25 <sup>14</sup>	21 <sup>51</sup>	17 <sup>54</sup>	F 1
S 2	8 48 24	12 <sup>59</sup> 37	5 <sup>52</sup>	20 <sup>57</sup>	6 <sup>41</sup>	10 <sup>46</sup>	17 <sup>3</sup>	3 <sup>8</sup>	24 <sup>27</sup>	6 <sup>50</sup>	11 <sup>2</sup>	23 <sup>30</sup>	25 <sup>11</sup>	21 <sup>57</sup>	17 <sup>58</sup>	S 2
S 3	8 52 21	14 <sup>0</sup> 33	18 <sup>9</sup>	22 <sup>18</sup>	7 <sup>56</sup>	11 <sup>33</sup>	16 <sup>57</sup>	3 <sup>15</sup>	24 <sup>27</sup>	6 <sup>49</sup>	11 <sup>2</sup>	23 <sup>28</sup>	25 <sup>8</sup>	22 <sup>4</sup>	18 <sup>3</sup>	S 3
M 4	8 56 17	15 <sup>1</sup> 27	0 <sup>13</sup>	23 <sup>41</sup>	9 <sup>12</sup>	12 <sup>20</sup>	16 <sup>50</sup>	3 <sup>22</sup>	24 <sup>27</sup>	6 <sup>48</sup>	11 <sup>2</sup>	23 <sup>28</sup>	25 <sup>5</sup>	22 <sup>11</sup>	18 <sup>8</sup>	M 4
T 5	9 0 14	16 <sup>2</sup> 20	12 <sup>7</sup>	25 <sup>5</sup>	10 <sup>27</sup>	13 <sup>7</sup>	16 <sup>44</sup>	3 <sup>29</sup>	24 <sup>27</sup>	6 <sup>47</sup>	11 <sup>2</sup>	23 <sup>29</sup>	25 <sup>1</sup>	22 <sup>17</sup>	18 <sup>12</sup>	T 5
W 6	9 4 11	17 <sup>3</sup> 11	23 <sup>57</sup>	26 <sup>30</sup>	11 <sup>42</sup>	13 <sup>54</sup>	16 <sup>38</sup>	3 <sup>36</sup>	24 <sup>27</sup>	6 <sup>46</sup>	11 <sup>2</sup>	23 <sup>31</sup>	24 <sup>58</sup>	22 <sup>24</sup>	18 <sup>17</sup>	W 6
T 7	9 8 7	18 <sup>4</sup> 01	5 <sup>45</sup>	27 <sup>55</sup>	12 <sup>58</sup>	14 <sup>41</sup>	16 <sup>32</sup>	3 <sup>43</sup>	24 <sup>28</sup>	6 <sup>45</sup>	11 <sup>3</sup>	23 <sup>33</sup>	24 <sup>55</sup>	22 <sup>31</sup>	18 <sup>21</sup>	T 7
F 8	9 12 4	19 <sup>4</sup> 50	17 <sup>38</sup>	29 <sup>22</sup>	14 <sup>13</sup>	15 <sup>28</sup>	16 <sup>26</sup>	3 <sup>50</sup>	24 <sup>28</sup>	6 <sup>45</sup>	11 <sup>3</sup>	23 <sup>34</sup>	24 <sup>52</sup>	22 <sup>37</sup>	18 <sup>26</sup>	F 8
S 9	9 16 0	20 <sup>5</sup> 37	29 <sup>41</sup>	0 <sup>50</sup>	15 <sup>28</sup>	16 <sup>15</sup>	16 <sup>21</sup>	3 <sup>57</sup>	24 <sup>28</sup>	6 <sup>44</sup>	11 <sup>3</sup>	23 <sup>33</sup>	24 <sup>49</sup>	22 <sup>44</sup>	18 <sup>31</sup>	S 9
S 10	9 19 57	21 <sup>6</sup> 23	11 <sup>57</sup>	2 <sup>18</sup>	16 <sup>43</sup>	17 <sup>2</sup>	16 <sup>15</sup>	4 <sup>4</sup>	24 <sup>29</sup>	6 <sup>42</sup>	11 <sup>4</sup>	23 <sup>31</sup>	24 <sup>46</sup>	22 <sup>51</sup>	18 <sup>35</sup>	S 10
M 11	9 23 53	22 <sup>7</sup> 07	24 <sup>33</sup>	3 <sup>48</sup>	17 <sup>59</sup>	17 <sup>49</sup>	16 <sup>10</sup>	4 <sup>11</sup>	24 <sup>29</sup>	6 <sup>41</sup>	11 <sup>4</sup>	23 <sup>28</sup>	24 <sup>42</sup>	22 <sup>57</sup>	18 <sup>40</sup>	M 11
T 12	9 27 50	23 <sup>7</sup> 50	7 <sup>31</sup>	5 <sup>18</sup>	19 <sup>14</sup>	18 <sup>36</sup>	16 <sup>5</sup>	4 <sup>18</sup>	24 <sup>30</sup>	6 <sup>40</sup>	11 <sup>5</sup>	23 <sup>23</sup>	24 <sup>39</sup>	23 <sup>4</sup>	18 <sup>44</sup>	T 12
W 13	9 31 46	24 <sup>8</sup> 31	20 <sup>52</sup>	6 <sup>49</sup>	20 <sup>29</sup>	19 <sup>23</sup>	16 <sup>0</sup>	4 <sup>25</sup>	24 <sup>30</sup>	6 <sup>39</sup>	11 <sup>5</sup>	23 <sup>18</sup>	24 <sup>36</sup>	23 <sup>11</sup>	18 <sup>49</sup>	W 13
T 14	9 35 43	25 <sup>9</sup> 11	4 <sup>37</sup>	8 <sup>21</sup>	21 <sup>44</sup>	20 <sup>10</sup>	15 <sup>55</sup>	4 <sup>32</sup>	24 <sup>31</sup>	6 <sup>38</sup>	11 <sup>5</sup>	23 <sup>14</sup>	24 <sup>33</sup>	23 <sup>17</sup>	18 <sup>53</sup>	T 14
F 15	9 39 40	26 <sup>9</sup> 49	18 <sup>44</sup>	9 <sup>54</sup>	22 <sup>59</sup>	20 <sup>56</sup>	15 <sup>50</sup>	4 <sup>38</sup>	24 <sup>32</sup>	6 <sup>37</sup>	11 <sup>6</sup>	23 <sup>10</sup>	24 <sup>30</sup>	23 <sup>24</sup>	18 <sup>58</sup>	F 15
S 16	9 43 36	27 <sup>10</sup> 26	3 <sup>17</sup>	11 <sup>28</sup>	24 <sup>15</sup>	21 <sup>43</sup>	15 <sup>46</sup>	4 <sup>45</sup>	24 <sup>33</sup>	6 <sup>36</sup>	11 <sup>6</sup>	23 <sup>8</sup>	24 <sup>27</sup>	23 <sup>31</sup>	19 <sup>3</sup>	S 16
S 17	9 47 33	28 <sup>11</sup> 01	17 <sup>42</sup>	13 <sup>2</sup>	25 <sup>30</sup>	22 <sup>30</sup>	15 <sup>41</sup>	4 <sup>52</sup>	24 <sup>33</sup>	6 <sup>35</sup>	11 <sup>7</sup>	23 <sup>6</sup>	24 <sup>23</sup>	23 <sup>37</sup>	19 <sup>7</sup>	S 17
M 18	9 51 29	29 <sup>11</sup> 35	2 <sup>22</sup>	14 <sup>38</sup>	26 <sup>45</sup>	23 <sup>17</sup>	15 <sup>37</sup>	4 <sup>59</sup>	24 <sup>34</sup>	6 <sup>33</sup>	11 <sup>7</sup>	23 <sup>7</sup>	24 <sup>20</sup>	23 <sup>44</sup>	19 <sup>12</sup>	M 18
T 19	9 55 26	0 <sup>12</sup> 08	17 <sup>0</sup>	16 <sup>14</sup>	28 <sup>0</sup>	24 <sup>3</sup>	15 <sup>33</sup>	5 <sup>5</sup>	24 <sup>35</sup>	6 <sup>32</sup>	11 <sup>8</sup>	23 <sup>8</sup>	24 <sup>17</sup>	23 <sup>50</sup>	19 <sup>16</sup>	T 19
W 20	9 59 22	1 <sup>12</sup> 39	1 <sup>31</sup>	17 <sup>51</sup>	29 <sup>15</sup>	24 <sup>50</sup>	15 <sup>29</sup>	5 <sup>12</sup>	24 <sup>36</sup>	6 <sup>31</sup>	11 <sup>8</sup>	23 <sup>9</sup>	24 <sup>14</sup>	23 <sup>57</sup>	19 <sup>21</sup>	W 20
T 21	10 3 19	2 <sup>13</sup> 10	15 <sup>52</sup>	19 <sup>29</sup>	0 <sup>30</sup>	25 <sup>37</sup>	15 <sup>26</sup>	5 <sup>19</sup>	24 <sup>37</sup>	6 <sup>30</sup>	11 <sup>9</sup>	23 <sup>10</sup>	24 <sup>11</sup>	24 <sup>4</sup>	19 <sup>25</sup>	T 21
F 22	10 7 15	3 <sup>13</sup> 39	29 <sup>59</sup>	21 <sup>9</sup>	1 <sup>46</sup>	26 <sup>23</sup>	15 <sup>22</sup>	5 <sup>25</sup>	24 <sup>38</sup>	6 <sup>28</sup>	11 <sup>10</sup>	23 <sup>11</sup>	24 <sup>7</sup>	24 <sup>10</sup>	19 <sup>30</sup>	F 22
S 23	10 11 12	4 <sup>14</sup> 06	13 <sup>52</sup>	22 <sup>49</sup>	3 <sup>1</sup>	27 <sup>10</sup>	15 <sup>19</sup>	5 <sup>32</sup>	24 <sup>39</sup>	6 <sup>27</sup>	11 <sup>10</sup>	23 <sup>11</sup>	24 <sup>4</sup>	24 <sup>17</sup>	19 <sup>34</sup>	S 23
S 24	10 15 9	5 <sup>14</sup> 33	27 <sup>29</sup>	24 <sup>29</sup>	4 <sup>16</sup>	27 <sup>56</sup>	15 <sup>16</sup>	5 <sup>38</sup>	24 <sup>40</sup>	6 <sup>26</sup>	11 <sup>11</sup>	23 <sup>10</sup>	24 <sup>1</sup>	24 <sup>24</sup>	19 <sup>39</sup>	S 24
M 25	10 19 5	6 <sup>14</sup> 58	10 <sup>31</sup>	26 <sup>11</sup>	5 <sup>31</sup>	28 <sup>43</sup>	15 <sup>13</sup>	5 <sup>45</sup>	24 <sup>42</sup>	6 <sup>24</sup>	11 <sup>11</sup>	23 <sup>8</sup>	23 <sup>58</sup>	24 <sup>30</sup>	19 <sup>43</sup>	M 25
T 26	10 23 2	7 <sup>15</sup> 22	23 <sup>59</sup>	27 <sup>54</sup>	6 <sup>46</sup>	29 <sup>30</sup>	15 <sup>11</sup>	5 <sup>51</sup>	24 <sup>43</sup>	6 <sup>23</sup>	11 <sup>12</sup>	23 <sup>5</sup>	23 <sup>55</sup>	24 <sup>37</sup>	19 <sup>48</sup>	T 26
W 27	10 26 58	8 <sup>15</sup> 44	6 <sup>53</sup>	29 <sup>38</sup>	8 <sup>1</sup>	0 <sup>16</sup>	15 <sup>8</sup>	5 <sup>58</sup>	24 <sup>44</sup>	6 <sup>21</sup>	11 <sup>13</sup>	23 <sup>3</sup>	23 <sup>52</sup>	24 <sup>44</sup>	19 <sup>52</sup>	W 27
T 28	10 30 55	9 <sup>16</sup> 05	19 <sup>34</sup>	1 <sup>23</sup>	9 <sup>16</sup>	1 <sup>17</sup>	15 <sup>6</sup>	6 <sup>4</sup>	24 <sup>46</sup>	6 <sup>20</sup>	11 <sup>14</sup>	23 <sup>11</sup>	23 <sup>48</sup>	24 <sup>50</sup>	19 <sup>56</sup>	T 28

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	decl lat
F 1	17s11	11s16	2n36	22s13	0s13	19s47	0s55	8s40	0s55	22n36	0n17	19s46	0s18	18n39	0s14	1s25
S 2	16 54	7 53	1 34	22 9	0 21	19 30	0 57	8 22	0 54	22 37	0 17	19 44	0 18	18 39	0 14	1 24
S 3	16 37	4 14	0 29	22 3	0 29	19 13	0 58	8 3	0 54	22 38	0 17	19 43	0 18	18 39	0 14	1 24
M 4	16 19	0 29	0s37	21 57	0 37	18 55	1 0	7 45	0 53	22 38	0 17	19 41	0 18	18 39	0 14	1 24
T 5	16 1	3n15	1 40	21 49	0 44	18 36	1 2	7 26	0 53	22 39	0 17	19 39	0 18	18 39	0 14	1 23
W 6	15 43	6 49	2 39	21 40	0 51	18 17	1 3	7 8	0 52	22 40	0 17	19 38	0 18	18 39	0 14	1 23
T 7	15 24	10 7	3 31	21 30	0 58	17 57	1 5	6 49	0 51	22 41	0 17	19 36	0 18	18 39	0 14	1 22
F 8	15 6 13	1 4	4 14	21 19	1 4	17 37	1 7	6 30	0 51	22 42	0 17	19 35	0 18	18 39	0 14	1 22
S 9	14 46	15 24	4 46	21 6	1 10	17 16	1 8	6 12	0 50	22 43	0 17	19 33	0 19	18 39	0 14	1 21
S 10	14 27	17 8	5 7	20 52	1 16	16 55	1 10	5 53	0 50	22 43	0 17	19 32	0 19	18 39	0 14	1 21
M 11	14 8 18	6 5	5 13	20 37	1 22	16 33	1 11	5 34	0 49	22 44	0 18	19 30	0 19	18 39	0 14	1 21
T 12	13 48	18 9	5 4	20 21	1 27	16 11	1 12	5 15	0 49	22 45	0 18	19 28	0 19	18 40	0 14	1 20
W 13	13 28	17 14	4 38	20 3	1 33	15 49	1 13	4 56	0 48	22 45	0 18	19 27	0 19	18 40	0 14	1 20
T 14	13 8 15	17 13	3 55	19 44	1 37	15 26	1 15	4 37	0 47	22 46	0 18	19 25	0 19	18 40	0 14	1 19
F 15	12 47	12 23	2 58	19 23	1 42	15 2	1 16	4 18	0 47	22 47	0 18	19 24	0 19	18 40	0 14	1 19
S 16	12 27	8 41	1 48	19 2	1 46	14 38	1 17	3 59	0 46	22 47	0 18	19 22	0 19	18 40	0 14	1 18
S 17	12 6	4 24	0 30	18 39	1 50	14 14	1 18	3 40	0 45	22 48	0 18	19 21	0 19	18 41	0 14	1 18
M 18	11 45	0s10	0n51	18 14	1 53	13 50	1 19	3 21	0 45	22 49	0 18	19 19	0 19	18 41	0 14	1 17
T 19	11 24	4 42	2 8	17 49	1 56	13 25	1 20	3 2	0 44	22 49	0 18	19 18	0 19	18 41	0 14	1 17
W 20	11 2	8 55	3 16	17 22	1 59	12 59	1 21	2 43	0 44	22 50	0 18	19 16	0 19	18 41	0 14	1 16
T 21	10 41	12 34	4 12	16 53	2 2	12 33	1 22	2 24	0 43	22 50	0 18	19 15	0 19	18 42	0 14	1 16
F 22	10 19	15 24	4 51	16 24	2 4	12 7	1 22	2 5	0 42	22 51	0 18	19 13	0 20	18 42	0 13	1 15
S 23	9 57	17 17	5 12	15 53	2 5	11 41	1 23	1 46	0 42	22 51	0 19	19 12	0 20	18 42	0 13	1 14
S 24	9 35	18 9	5 15	15 20	2 7	11 14	1 24	1 27	0 41	22 51	0 19	19 10	0 20	18 42	0 13	1 14
M 25	9 13	17 59	5 1	14 47	2 7	10 47	1 24	1 8	0 40	22 52	0 19	19 8	0 20	18 43	0 13	1 13
T 26	8 50	16 50	4 31	14 12	2 8	10 20	1 25	0 49	0 40	22 52	0 19	19 7	0 20	18 43	0 13	1 13
W 27	8 28	14 51	3 48	13 35	2 8	9 52	1 25	0 30	0 39	22 53	0 19	19 5	0 20	18 43	0 13	1 12
T 28	8s 5	12s10	2n55	12s58	2s 8	9s24	1s25	0s11	0s39	22n53	0n19	19s 4	0s20	18n44	0s13	1s12

Julian Day Number = 2491387.5, Delta T = 97.55 sec

Ecliptic obliquity = 23°25'21", Nutation = 0°00'00", out-of-bounds declination in red

Ayanamsha: Fagan/Bradley = 26°15'52", Lahiri = 25°22'52"

# ASTRODIENST EPHEMERIS for the year 2109

## geocentric

MARCH 2109

00:00 UT

Day	Sid.t	☉	☽	♂	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
F 1	10 34 51	10♈16'24	2♈ 2	3♈ 9	10♈31	1♈49	15°R 4	6♈11	24♈47	6°R19	11♈14	23°R 0	23♈45	24♈57	20♈ 1	F 1
S 2	10 38 48	11°16'41	14°19	4°55	11°46	2°35	15°D 2	6°17	24°48	6♈17	11°15	22°59	23°42	25° 4	20° 5	S 2
S 3	10 42 44	12°16'56	26°25	6°43	13° 1	3°22	15° 0	6°23	24°50	6°16	11°16	22°D59	23°39	25°10	20° 9	S 3
M 4	10 46 41	13°17'10	8♈23	8°32	14°16	4° 8	14°59	6°29	24°51	6°14	11°17	22°59	23°36	25°17	20°14	M 4
T 5	10 50 37	14°17'22	20°15	10°22	15°31	4°54	14°58	6°36	24°53	6°13	11°17	23° 0	23°32	25°24	20°18	T 5
W 6	10 54 34	15°17'32	2♈ 4	12°13	16°46	5°40	14°56	6°42	24°55	6°11	11°18	23° 1	23°29	25°30	20°22	W 6
T 7	10 58 31	16°17'40	13°53	14° 5	18° 1	6°27	14°56	6°48	24°56	6°10	11°19	23° 2	23°26	25°37	20°27	T 7
F 8	11 2 27	17°17'45	25°46	15°58	19°16	7°13	14°55	6°54	24°58	6° 8	11°20	23° 2	23°23	25°44	20°31	F 8
S 9	11 6 24	18°17'49	7♈14	17°52	20°31	7°59	14°54	7° 0	25° 0	6° 7	11°21	23° 3	23°20	25°50	20°35	S 9
S 10	11 10 20	19°17'51	20° 1	19°47	21°46	8°45	14°54	7° 6	25° 2	6° 5	11°22	23°R 3	23°17	25°57	20°39	S 10
M 11	11 14 17	20°17'50	2♈33	21°42	23° 1	9°31	14°D54	7°12	25° 4	6° 3	11°23	23° 3	23°13	26° 4	20°43	M 11
T 12	11 18 13	21°17'48	15°26	23°39	24°16	10°17	14°54	7°17	25° 6	6° 2	11°23	23° 2	23°10	26°10	20°47	T 12
W 13	11 22 10	22°17'43	28°43	25°36	25°31	11° 3	14°54	7°23	25° 7	6° 0	11°24	23° 2	23° 7	26°17	20°51	W 13
T 14	11 26 6	23°17'36	12♈28	27°34	26°45	11°49	14°55	7°29	25° 9	5°59	11°25	23°D 2	23° 4	26°24	20°55	T 14
F 15	11 30 3	24°17'27	26°38	29°32	28° 0	12°35	14°56	7°35	25°12	5°57	11°26	23° 2	23° 1	26°30	20°59	F 15
S 16	11 34 0	25°17'15	11♈12	1°Y31	29°15	13°21	14°57	7°40	25°14	5°55	11°27	23° 2	22°58	26°37	21° 3	S 16
S 17	11 37 56	26°17'02	26° 3	3°29	0°Y30	14° 6	14°58	7°46	25°16	5°54	11°28	23°R 2	22°54	26°44	21° 7	S 17
M 18	11 41 53	27°16'46	11♈ 5	5°28	1°44	14°52	14°59	7°51	25°18	5°52	11°29	23° 2	22°51	26°50	21°11	M 18
T 19	11 45 49	28°16'29	26° 9	7°26	2°59	15°38	15° 0	7°57	25°20	5°51	11°30	23° 2	22°48	26°57	21°15	T 19
W 20	11 49 46	29°16'10	11♈ 5	9°23	4°14	16°24	15° 2	8° 2	25°22	5°49	11°31	23° 1	22°45	27° 4	21°19	W 20
T 21	11 53 42	0°Y15'49	25°47	11°20	5°29	17° 9	15° 4	8° 7	25°25	5°47	11°32	23° 1	22°42	27°10	21°23	T 21
F 22	11 57 39	1°15'27	10♈10	13°15	6°43	17°55	15° 6	8°12	25°27	5°46	11°34	23° 0	22°38	27°17	21°27	F 22
S 23	12 1 35	2°15'03	24°10	15° 8	7°58	18°40	15° 8	8°18	25°29	5°44	11°35	22°59	22°35	27°24	21°30	S 23
S 24	12 5 32	3°14'37	7♈47	16°59	9°12	19°26	15°10	8°23	25°32	5°42	11°36	22°D59	22°32	27°30	21°34	S 24
M 25	12 9 29	4°14'10	21° 1	18°48	10°27	20°11	15°13	8°28	25°34	5°41	11°37	23° 0	22°29	27°37	21°38	M 25
T 26	12 13 25	5°13'40	3♈56	20°33	11°42	20°57	15°16	8°33	25°37	5°39	11°38	23° 1	22°26	27°44	21°41	T 26
W 27	12 17 22	6°13'09	16°33	22°15	12°56	21°42	15°19	8°38	25°39	5°37	11°39	23° 2	22°23	27°50	21°45	W 27
T 28	12 21 18	7°12'36	28°57	23°54	14°11	22°27	15°22	8°42	25°42	5°36	11°40	23° 3	22°19	27°57	21°48	T 28
F 29	12 25 15	8°12'01	11♈ 9	25°27	15°25	23°13	15°25	8°47	25°44	5°34	11°41	23° 4	22°16	28° 4	21°52	F 29
S 30	12 29 11	9°11'25	23°12	26°56	16°40	23°58	15°29	8°52	25°47	5°32	11°43	23°R 4	22°13	28°11	21°55	S 30
S 31	12 33 8	10°Y10'46	5°Y 8	28°Y20	17°Y54	24°Y43	15°D32	8♈56	25♈50	5♈31	11♈44	23♈ 4	22♈10	28°Y17	21♈59	S 31

Day	☉	☽	♂	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
F 1	7s43	8s59	1n54	12s19	2s 7	8s56	1s26	0n 9	0s38	22n53	0n19	19s 2	0s20	18n44	0s13	F 1
S 2	7 20	5 26	0 48	11 39	2 5	8 28	1 26	0 28	0 37	22 54	0 19	19 1	0 20	18 44	0 13	S 2
S 3	6 57	1 43	0s19	10 57	2 4	7 59	1 26	0 47	0 37	22 54	0 19	19 0	0 20	18 45	0 13	S 3
M 4	6 34	2n 2	1 25	10 14	2 1	7 31	1 26	1 5	0 36	22 54	0 19	18 58	0 20	18 45	0 13	M 4
T 5	6 11	5 39	2 26	9 30	1 59	7 2	1 26	1 24	0 35	22 54	0 19	18 57	0 21	18 46	0 13	T 5
W 6	5 48	9 3	3 21	8 45	1 55	6 33	1 26	1 43	0 35	22 54	0 19	18 55	0 21	18 46	0 13	W 6
T 7	5 24	12 4	4 7	7 59	1 52	6 3	1 26	2 2	0 34	22 55	0 19	18 54	0 21	18 46	0 13	T 7
F 8	5 1	14 36	4 43	7 11	1 47	5 34	1 26	2 21	0 33	22 55	0 19	18 52	0 21	18 47	0 13	F 8
S 9	4 37	16 33	5 7	6 22	1 43	5 4	1 26	2 40	0 33	22 55	0 20	18 51	0 21	18 47	0 13	S 9
S 10	4 14	17 46	5 17	5 32	1 37	4 34	1 26	2 59	0 32	22 55	0 20	18 49	0 21	18 48	0 13	S 10
M 11	3 50	18 10	5 14	4 41	1 31	4 5	1 25	3 17	0 31	22 55	0 20	18 48	0 21	18 48	0 13	M 11
T 12	3 27	17 40	4 54	3 49	1 25	3 35	1 25	3 36	0 31	22 55	0 20	18 47	0 21	18 49	0 13	T 12
W 13	3 3	16 11	4 18	2 56	1 18	3 4	1 24	3 55	0 30	22 55	0 20	18 45	0 21	18 49	0 13	W 13
T 14	2 40	13 44	3 27	2 2	1 10	2 34	1 24	4 13	0 29	22 55	0 20	18 44	0 21	18 50	0 13	T 14
F 15	2 16	10 24	2 22	1 8	1 2	2 4	1 23	4 32	0 29	22 55	0 20	18 43	0 22	18 50	0 13	F 15
S 16	1 52	6 21	1 5	0 13	0 53	1 34	1 23	4 50	0 28	22 55	0 20	18 41	0 22	18 51	0 13	S 16
S 17	1 29	1 49	0n17	0n43	0 44	1 3	1 22	5 8	0 27	22 55	0 20	18 40	0 22	18 51	0 13	S 17
M 18	1 5	2s52	1 39	1 39	0 34	0 33	1 21	5 27	0 27	22 55	0 20	18 39	0 22	18 52	0 13	M 18
T 19	0 41	7 23	2 54	2 35	0 24	0 2	1 20	5 45	0 26	22 55	0 20	18 37	0 22	18 52	0 13	T 19
W 20	0 17	11 24	3 57	3 31	0 13	0n28	1 19	6 3	0 25	22 55	0 20	18 36	0 22	18 53	0 13	W 20
T 21	0n 6	14 37	4 43	4 27	0 2	0 59	1 18	6 21	0 25	22 54	0 20	18 35	0 22	18 54	0 13	T 21
F 22	0 30	16 51	5 10	5 23	0n10	1 29	1 17	6 39	0 24	22 54	0 20	18 34	0 22	18 54	0 13	F 22
S 23	0 54	18 0	5 17	6 17	0 22	1 59	1 16	6 57	0 23	22 54	0 20	18 32	0 22	18 55	0 13	S 23
S 24	1 17	18 5	5 7	7 11	0 34	2 30	1 15	7 15	0 23	22 54	0 20	18 31	0 22	18 55	0 13	S 24
M 25	1 41	17 10	4 40	8 4	0 46	3 0	1 14	7 33	0 22	22 54	0 20	18 30	0 23	18 56	0 13	M 25
T 26	2 5	15 22	4 0	8 55	0 58	3 30	1 13	7 50	0 21	22 53	0 20	18 29	0 23	18 56	0 13	T 26
W 27	2 28	12 51	3 9	9 45	1 10	4 1	1 11	8 8	0 21	22 53	0 21	18 27	0 23	18 57	0 13	W 27
T 28	2 52	9 48	2 10	10 33	1 23	4 31	1 10	8 25	0 20	22 53	0 21	18 26	0 23	18 58	0 13	T 28
F 29	3 15	6 22	1 6	11 18	1 35	5 1	1 9	8 43	0 19	22 52	0 21	18 25	0 23	18 58	0 13	F 29
S 30	3 38	2 43	0s 1	12 2	1 46	5 31	1 7	9 0	0 19	22 52	0 21	18 24	0 23	18 59	0 13	S 30
S 31	4n 2	1n 1	1s 6	12n42	1n58	6n 1	1s 6	9n17	0s18	22n52	0n21	18s23	0s23	19n 0	0s13	S 31

Julian Day Number = 2491415.5, Delta T = 97.59 sec  
 Ecliptic obliquity = 23°25'22, Nutation = - 0°00'01, out-of-bounds declination in red  
 Ayanamsha: Fagan/Bradley = 26°15'56, Lahiri = 25°22'56

# ASTRODIENST EPHEMERIS for the year 2109

## geocentric

APRIL 2109

00:00 UT

Day	Sid.t	☉	☽	♂	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
M 1	12 37 4	11°10'05	17°0	29°39	19°9	25°28	15°36	9°1	25°52	5°R29	11°45	23°R 2	22°7	28°24	22°2	M 1
T 2	12 41 1	12° 9'22	28°49	0°52	20°23	26°13	15°40	9° 5	25°55	5°27	11°46	23°0	22° 4	28°31	22° 6	T 2
W 3	12 44 57	13° 8'37	10°38	1°58	21°38	26°58	15°44	9°10	25°58	5°26	11°47	22°57	22° 0	28°37	22° 9	W 3
T 4	12 48 54	14° 7'50	22°29	2°59	22°52	27°43	15°49	9°14	26° 0	5°24	11°49	22°54	21°57	28°44	22°12	T 4
F 5	12 52 51	15° 7'01	4°24	3°53	24° 7	28°28	15°53	9°18	26° 3	5°22	11°50	22°50	21°54	28°51	22°15	F 5
S 6	12 56 47	16° 6'10	16°27	4°40	25°21	29°13	15°58	9°23	26° 6	5°21	11°51	22°47	21°51	28°57	22°18	S 6
S 7	13 0 44	17° 5'16	28°41	5°21	26°35	29°58	16° 3	9°27	26° 9	5°19	11°52	22°44	21°48	29° 4	22°21	S 7
M 8	13 4 40	18° 4'20	11°31	5°55	27°50	0°43	16° 8	9°31	26°12	5°18	11°54	22°43	21°44	29°11	22°25	M 8
T 9	13 8 37	19° 3'22	23°57	6°22	29° 4	1°28	16°13	9°35	26°15	5°16	11°55	22°D43	21°41	29°17	22°28	T 9
W10	13 12 33	20° 2'21	7°0	6°42	0°18	2°12	16°19	9°38	26°18	5°14	11°56	22°44	21°38	29°24	22°30	W10
T 11	13 16 30	21° 1'18	20°43	6°55	1°32	2°57	16°24	9°42	26°21	5°13	11°57	22°46	21°35	29°31	22°33	T 11
F 12	13 20 26	22° 0'13	4°45	7°R 2	2°47	3°42	16°30	9°46	26°24	5°11	11°59	22°47	21°32	29°37	22°36	F 12
S 13	13 24 23	22°59'06	19°13	7° 1	4° 1	4°26	16°36	9°49	26°27	5°10	12° 0	22°R48	21°29	29°44	22°39	S 13
S 14	13 28 20	23°57'56	4° 5	6°55	5°15	5°11	16°42	9°53	26°30	5° 8	12° 1	22°47	21°25	29°51	22°42	S 14
M15	13 32 16	24°56'44	19°13	6°42	6°29	5°55	16°48	9°56	26°33	5° 7	12° 3	22°46	21°22	29°57	22°44	M15
T 16	13 36 13	25°55'31	4°30	6°24	7°43	6°39	16°54	10° 0	26°36	5° 5	12° 4	22°42	21°19	0° 4	22°47	T 16
W17	13 40 9	26°54'15	19°43	6° 1	8°57	7°24	17° 1	10° 3	26°39	5° 4	12° 5	22°38	21°16	0°11	22°50	W17
T 18	13 44 6	27°52'57	4°43	5°32	10°11	8° 8	17° 7	10° 6	26°42	5° 2	12° 6	22°32	21°13	0°17	22°52	T 18
F 19	13 48 2	28°51'38	19°23	5° 0	11°25	8°52	17°14	10° 9	26°45	5° 1	12° 8	22°28	21° 9	0°24	22°55	F 19
S 20	13 51 59	29°50'18	3°36	4°24	12°39	9°37	17°21	10°12	26°49	4°59	12° 9	22°24	21° 6	0°31	22°57	S 20
S 21	13 55 55	0°48'55	17°20	3°46	13°53	10°21	17°28	10°15	26°52	4°58	12°10	22°21	21° 3	0°37	22°59	S 21
M22	13 59 52	1°47'31	0°37	3° 5	15° 7	11° 5	17°35	10°18	26°55	4°56	12°12	22°D20	21° 0	0°44	23° 2	M22
T 23	14 3 49	2°46'05	13°29	2°24	16°21	11°49	17°42	10°21	26°58	4°55	12°13	22°21	20°57	0°51	23° 4	T 23
W24	14 7 45	3°44'38	26° 1	1°42	17°35	12°33	17°50	10°23	27° 2	4°53	12°15	22°22	20°54	0°57	23° 6	W24
T 25	14 11 42	4°43'08	8°15	1° 0	18°49	13°17	17°57	10°26	27° 5	4°52	12°16	22°24	20°50	1° 4	23° 8	T 25
F 26	14 15 38	5°41'38	20°18	0°19	20° 3	14° 1	18° 5	10°28	27° 8	4°51	12°17	22°R24	20°47	1°11	23°10	F 26
S 27	14 19 35	6°40'05	2°12	29°41	21°17	14°45	18°13	10°31	27°11	4°49	12°19	22°24	20°44	1°17	23°13	S 27
S 28	14 23 31	7°38'31	14° 2	29° 4	22°31	15°28	18°21	10°33	27°15	4°48	12°20	22°21	20°41	1°24	23°14	S 28
M29	14 27 28	8°36'55	25°50	28°31	23°44	16°12	18°29	10°35	27°18	4°47	12°21	22°17	20°38	1°31	23°16	M29
T 30	14 31 24	9°35'17	7°39	28°Y 1	24°58	16°56	18°37	10°37	27°21	4°45	12°23	22°10	20°35	1°37	23°18	T 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
M 1	4n25	4n42	2s 9	13n20	2n 8	6n30	1s 4	9n34	0s17	22n51	0n21	18s22	0s23	19n 0	0s13	0s51	1n27	0n15	15s50	2n46	3n 8	8n 3	8s10	6n19	
T 2	4 48	8 10	3 5	13 56	2 18	7 0	1 2	9 51	0 17	22 51	0 21	18 21	0 23	19 1	0 13	0 50	1 27	0 16	15 49	2 47	3 9	8 4	8 9	6 19	
W 3	5 11	11 18	3 53	14 28	2 28	7 29	1 1	10 8	0 16	22 50	0 21	18 20	0 23	19 2	0 13	0 50	1 27	0 16	15 49	2 48	3 10	8 6	8 8	6 19	
T 4	5 34	14 0	4 32	14 57	2 37	7 58	0 59	10 25	0 15	22 50	0 21	18 19	0 24	19 2	0 13	0 49	1 27	0 17	15 49	2 49	3 11	8 8	8 6	6 20	
F 5	5 57	16 7	4 59	15 23	2 45	8 27	0 57	10 42	0 15	22 49	0 21	18 18	0 24	19 3	0 13	0 48	1 27	0 17	15 49	2 51	3 13	8 9	8 5	6 20	
S 6	6 20	17 33	5 13	15 46	2 51	8 56	0 55	10 58	0 14	22 49	0 21	18 17	0 24	19 4	0 13	0 48	1 27	0 18	15 49	2 52	3 14	8 11	8 4	6 20	
S 7	6 42	18 12	5 13	16 5	2 57	9 25	0 54	11 15	0 13	22 48	0 21	18 16	0 24	19 4	0 13	0 47	1 27	0 18	15 49	2 53	3 15	8 13	8 3	6 20	
M 8	7 5	18 0	4 59	16 21	3 2	9 53	0 52	11 31	0 13	22 48	0 21	18 15	0 24	19 5	0 13	0 46	1 27	0 19	15 48	2 53	3 16	8 14	8 1	6 21	
T 9	7 27	16 53	4 29	16 33	3 6	10 22	0 50	11 47	0 12	22 47	0 21	18 14	0 24	19 6	0 13	0 46	1 27	0 19	15 48	2 53	3 18	8 16	8 0	6 21	
W10	7 50	14 51	3 45	16 42	3 8	10 49	0 48	12 3	0 11	22 47	0 21	18 13	0 24	19 6	0 13	0 45	1 27	0 20	15 48	2 53	3 19	8 18	7 59	6 21	
T 11	8 12	11 56	2 47	16 47	3 9	11 17	0 46	12 19	0 11	22 46	0 21	18 12	0 24	19 7	0 13	0 44	1 27	0 20	15 48	2 52	3 20	8 20	7 58	6 22	
F 12	8 34	8 15	1 38	16 49	3 8	11 45	0 44	12 35	0 10	22 45	0 21	18 11	0 24	19 8	0 13	0 44	1 27	0 21	15 48	2 52	3 21	8 21	7 57	6 22	
S 13	8 56	3 58	0 20	16 47	3 7	12 12	0 42	12 51	0 9	22 45	0 21	18 10	0 25	19 8	0 13	0 43	1 27	0 21	15 48	2 51	3 23	8 23	7 55	6 22	
S 14	9 18	0s41	1n 2	16 42	3 3	12 39	0 39	13 6	0 9	22 44	0 21	18 9	0 25	19 9	0 13	0 43	1 27	0 22	15 48	2 52	3 24	8 25	7 54	6 23	
M15	9 39	5 22	2 20	16 33	2 58	13 5	0 37	13 22	0 8	22 43	0 21	18 9	0 25	19 10	0 13	0 42	1 27	0 22	15 48	2 52	3 25	8 26	7 53	6 23	
T 16	10 1	9 44	3 28	16 21	2 52	13 31	0 35	13 37	0 7	22 43	0 21	18 8	0 25	19 11	0 13	0 41	1 27	0 23	15 47	2 54	3 26	8 28	7 52	6 23	
W17	10 22	13 27	4 22	16 6	2 44	13 57	0 33	13 52	0 7	22 42	0 21	18 7	0 25	19 11	0 13	0 41	1 27	0 23	15 47	2 55	3 28	8 30	7 51	6 24	
T 18	10 43	16 12	4 57	15 48	2 35	14 23	0 31	14 7	0 6	22 41	0 22	18 6	0 25	19 12	0 13	0 40	1 27	0 24	15 47	2 57	3 29	8 31	7 50	6 24	
F 19	11 4	17 50	5 11	15 27	2 24	14 48	0 28	14 22	0 5	22 40	0 22	18 6	0 25	19 13	0 13	0 40	1 27	0 24	15 47	2 59	3 30	8 33	7 48	6 24	
S 20	11 24	18 17	5 6	15 3	2 12	15 13	0 26	14 36	0 5	22 39	0 22	18 5	0 25	19 14	0 13	0 39	1 27	0 24	15 47	3 1	3 31	8 35	7 47	6 25	
S 21	11 45	17 37	4 43	14 38	1 59	15 37	0 24	14 51	0 4	22 38	0 22	18 4	0 26	19 14	0 12	0 39	1 27	0 25	15 47	3 2	3 33	8 36	7 46	6 25	
M22	12 5	16 1	4 5	14 11	1 45	16 1	0 21	15 5	0 3	22 38	0 22	18 4	0 26	19 15	0 12	0 38	1 27	0 25	15 47	3 2	3 34	8 38	7 45	6 25	
T 23	12 25	13 38	3 16	13 42	1 30	16 25	0 19	15 19	0 3	22 37	0 22	18 3	0 26	19 16	0 12	0 37	1 27	0 26	15 47	3 2	3 35	8 40	7 44	6 26	
W24	12 45	10 40	2 19	13 13	1 14	16 48	0 16	15 34	0 2	22 36	0 22	18 2	0 26	19 17	0 12	0 37	1 27	0 26	15 47	3 2	3 36	8 41	7 43	6 26	
T 25	13 5	7 17	1 16	12 43	0 57	17 11	0 14	15 47	0 1	22 35	0 22	18 2	0 26	19 17	0 12	0 36	1 27	0 27	15 47	3 1	3 38	8 43	7 42	6 26	
F 26	13 25	3 40	0 11	12 13	0 41	17 33	0 11	16 1	0 1	22 34	0 22	18 1	0 26	19 18	0 12	0 36	1 27	0 27	15 47	3 1	3 39	8 45	7 41	6 27	
S 27	13 44	0n 4	0s53	11 43	0 24	17 55	0 9	16 15	0 0	22 33	0 22	18 1	0 26	19 19	0 12	0 35	1 27	0 28	15 47	3 1	3 40	8 46	7 40	6 27	
S 28	14 3	3 46	1 54	11 14	0 6	18 17	0 6	16 28	0n 0	22 32	0 22	18 0	0 26	19 20	0 12	0 35	1 27	0 28	15 46	3 2	3 41	8 48	7 39	6 28	
M29	14 22	7 19	2 51	10 46	0s11	18 38	0 4	16 42	0 1	22 31	0 22	18 0	0 26	19 21	0 12	0 34	1 27	0 28	15 46	3 2	3 43	8 50	7 38	6 28	
T 30	14n40	10n35	3s40	10n20	0s27	18n58	0s 1	16n55	0n 2	22n30	0n22	17s59	0s27	19n21	0s12	0s34	1n27	0n29	15s46	3n 6	3n44	8n51	7s37	6n28	

ASTRODIENST EPHEMERIS for the year 2109  
geocentric

MAY 2109

00:00 UT

Day	Sid.t	☉	☽	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓	♈	♉	Day
W 1	14 35 21	10♈33'38	19♈31	27°R35	26♈12	17♈40	18♈45	10♈39	27♈25	4°R44	12♈24	22°R 2	20♈31	1♈44	23♈20	W 1
T 2	14 39 17	11°31'57	1♈27	27°Y13	27°26	18°23	18°54	10°41	27°28	4♈43	12°25	21♈52	20°28	1°51	23°22	T 2
F 3	14 43 14	12°30'14	13°29	26°56	28°39	19° 7	19° 2	10°43	27°32	4°41	12°27	21°43	20°25	1°57	23°23	F 3
S 4	14 47 11	13°28'29	25°39	26°43	29°53	19°50	19°11	10°45	27°35	4°40	12°28	21°34	20°22	2° 4	23°25	S 4
S 5	14 51 7	14°26'42	7♈58	26°35	1♈11	7	20°34	19°20	10°46	27°38	4°39	12°30	21°27	2°19	2°11	S 5
M 6	14 55 4	15°24'53	20°30	26°D31	2°20	21°17	19°29	10°48	27°42	4°38	12°31	21°22	20°15	2°17	2°17	M 6
T 7	14 59 0	16°23'02	3♈17	26°33	3°34	22° 0	19°38	10°49	27°45	4°37	12°32	21°19	20°12	2°24	2°24	T 7
W 8	15 2 57	17°21'10	16°22	26°39	4°47	22°44	19°47	10°51	27°49	4°36	12°34	21°D18	20° 9	2°31	2°31	W 8
T 9	15 6 53	18°19'15	29°49	26°50	6° 1	23°27	19°56	10°52	27°52	4°34	12°35	21°18	20° 6	2°38	2°38	T 9
F 10	15 10 50	19°17'18	13♈40	27° 5	7°14	24°10	20° 6	10°53	27°56	4°33	12°36	21°19	20° 3	2°44	2°44	F 10
S 11	15 14 46	20°15'20	27°56	27°25	8°28	24°53	20°15	10°54	27°59	4°32	12°38	21°R19	20° 0	2°51	2°51	S 11
S 12	15 18 43	21°13'19	12♈35	27°49	9°41	25°36	20°25	10°55	28° 3	4°31	12°39	21°17	19°56	2°58	2°58	S 12
M13	15 22 40	22°11'17	27°34	28°18	10°55	26°19	20°34	10°56	28° 6	4°30	12°40	21°13	19°53	3° 4	3°37	M13
T 14	15 26 36	23° 9'13	12♈45	28°51	12° 8	27° 2	20°44	10°56	28°10	4°29	12°42	21° 7	19°50	3°11	3°38	T 14
W15	15 30 33	24° 7'07	27°58	29°27	13°22	27°45	20°54	10°57	28°13	4°28	12°43	20°58	19°47	3°18	3°38	W15
T 16	15 34 29	25° 5'00	13♈ 3	0♈ 8	14°35	28°28	21° 4	10°58	28°17	4°27	12°44	20°49	19°44	3°24	3°39	T 16
F 17	15 38 26	26° 2'52	27°50	0°52	15°48	29°11	21°14	10°58	28°20	4°27	12°46	20°40	19°41	3°31	3°40	F 17
S 18	15 42 22	27° 0'42	12♈12	1°40	17° 1	29°54	21°24	10°58	28°24	4°26	12°47	20°32	19°37	3°38	3°41	S 18
S 19	15 46 19	27°58'32	26° 5	2°31	18°15	0♈136	21°35	10°59	28°27	4°25	12°48	20°26	19°34	3°44	3°41	S 19
M20	15 50 16	28°56'20	9♈28	3°26	19°28	1°19	21°45	10°59	28°31	4°24	12°50	20°22	19°31	3°51	3°42	M20
T 21	15 54 12	29°54'06	22°23	4°24	20°41	2° 2	21°55	10°R59	28°34	4°23	12°51	20°20	19°28	3°58	3°43	T 21
W22	15 58 9	0♈51'52	4♈55	5°25	21°54	2°44	22° 6	10°59	28°38	4°22	12°52	20°D20	19°25	4° 4	3°43	W22
T 23	16 2 5	1°49'36	17° 9	6°29	23° 8	3°27	22°17	10°59	28°41	4°22	12°54	20°R20	19°21	4°11	3°43	T 23
F 24	16 6 2	2°47'20	27° 9	7°36	24°21	4° 9	22°27	10°58	28°44	4°21	12°55	20°20	19°18	4°18	3°44	F 24
S 25	16 9 58	3°45'02	11°Y 1	8°45	25°34	4°52	22°38	10°58	28°48	4°20	12°56	20°18	19°15	4°24	3°44	S 25
S 26	16 13 55	4°42'44	22°49	9°58	26°47	5°34	22°49	10°58	28°51	4°20	12°58	20°14	19°12	4°31	3°44	S 26
M27	16 17 51	5°40'24	4♈37	11°14	28° 0	6°16	23° 0	10°57	28°55	4°19	12°59	20° 7	19° 9	4°38	3°44	M27
T 28	16 21 48	6°38'03	16°28	12°32	29°13	6°59	23°11	10°56	28°58	4°19	13° 0	19°57	19° 6	4°45	3°44	T 28
W29	16 25 44	7°35'41	28°25	13°52	0♈26	7°41	23°22	10°56	29° 2	4°18	13° 1	19°46	19° 2	4°51	3°R44	W29
T 30	16 29 41	8°33'18	10♈29	15°16	1°39	8°23	23°33	10°55	29° 5	4°17	13° 3	19°32	18°59	4°58	3°44	T 30
F 31	16 33 38	9♈30'54	22♈42	16♈42	2♈52	9♈11	23♈44	10♈54	29♈ 9	4♈17	13♈ 4	19♈19	18♈56	5♈ 5	23♈44	F 31

Day	☉	☾		♊		♋		♌		♍		♎		♏		♐		♑		♒	♓	♈	♉	
	decl	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	decl	decl	decl	lat
W 1	14n59	13n26	4s19	9n56	0s44	19n18	0n 1	17n 8	0n 2	22n29	0n22	17s59	0s27	19n22	0s12	0s33	1n27	0n29	15s46	3n10	3n45	8n53	7s36	6n29
T 2	15 17	15 45	4 47	9 33	0 59	19 38	0 4	17 20	0 3	22 27	0 22	17 58	0 27	19 23	0 12	0 33	1 27	0 30	15 46	3 13	3 46	8 54	7 35	6 29
F 3	15 35	17 23	5 3	9 13	1 15	19 57	0 6	17 33	0 4	22 26	0 22	17 58	0 27	19 24	0 12	0 32	1 26	0 30	15 46	3 17	3 48	8 56	7 34	6 29
S 4	15 52	18 16	5 6	8 54	1 29	20 15	0 9	17 45	0 4	22 25	0 22	17 58	0 27	19 24	0 12	0 32	1 26	0 31	15 46	3 21	3 49	8 58	7 34	6 30
S 5	16 10	18 18	4 54	8 39	1 43	20 33	0 11	17 58	0 5	22 24	0 22	17 57	0 27	19 25	0 12	0 31	1 26	0 31	15 46	3 23	3 50	8 59	7 33	6 30
M 6	16 27	17 26	4 28	8 26	1 56	20 50	0 14	18 10	0 6	22 23	0 22	17 57	0 27	19 26	0 12	0 31	1 26	0 31	15 46	3 25	3 51	9 1	7 32	6 31
T 7	16 44	15 42	3 48	8 15	2 8	21 7	0 16	18 21	0 6	22 21	0 22	17 57	0 27	19 27	0 12	0 31	1 26	0 32	15 46	3 27	3 53	9 3	7 31	6 31
W 8	17 0	13 7	2 56	8 7	2 19	21 23	0 19	18 33	0 7	22 20	0 22	17 57	0 28	19 28	0 12	0 30	1 26	0 32	15 46	3 27	3 54	9 4	7 30	6 31
T 9	17 16	9 46	1 53	8 1	2 29	21 39	0 21	18 45	0 8	22 19	0 22	17 56	0 28	19 28	0 12	0 30	1 26	0 32	15 46	3 27	3 55	9 6	7 29	6 32
F 10	17 32	5 47	0 41	7 58	2 38	21 54	0 24	18 56	0 8	22 17	0 22	17 56	0 28	19 29	0 12	0 29	1 26	0 33	15 46	3 26	3 56	9 8	7 29	6 32
S 11	17 48	1 22	0n35	7 57	2 46	22 8	0 26	19 7	0 9	22 16	0 22	17 56	0 28	19 30	0 12	0 29	1 26	0 33	15 46	3 26	3 58	9 9	7 28	6 33
S 12	18 3	3s16	1 51	7 59	2 54	22 22	0 29	19 18	0 9	22 15	0 23	17 56	0 28	19 31	0 12	0 29	1 26	0 34	15 46	3 27	3 59	9 11	7 27	6 33
M13	18 18	7 47	3 1	8 3	3 0	22 35	0 31	19 29	0 10	22 13	0 23	17 56	0 28	19 31	0 12	0 28	1 26	0 34	15 46	3 29	4 0	9 13	7 27	6 33
T 14	18 33	11 51	3 59	8 9	3 6	22 48	0 34	19 39	0 11	22 12	0 23	17 56	0 28	19 32	0 12	0 28	1 26	0 34	15 46	3 31	4 1	9 14	7 26	6 34
W15	18 47	15 9	4 40	8 18	3 11	22 59	0 36	19 50	0 11	22 10	0 23	17 56	0 29	19 33	0 12	0 27	1 26	0 35	15 46	3 35	4 3	9 16	7 25	6 34
T 16	19 1	17 22	5 1	8 28	3 15	23 11	0 39	20 0	0 12	22 9	0 23	17 56	0 29	19 34	0 12	0 27	1 26	0 35	15 46	3 38	4 4	9 18	7 25	6 35
F 17	19 15	18 23	5 1	8 40	3 18	23 21	0 41	20 10	0 13	22 7	0 23	17 56	0 29	19 35	0 12	0 27	1 26	0 35	15 47	3 42	4 5	9 19	7 24	6 35
S 18	19 29	18 10	4 42	8 55	3 20	23 31	0 44	20 20	0 13	22 6	0 23	17 56	0 29	19 35	0 12	0 26	1 26	0 36	15 47	3 45	4 6	9 21	7 23	6 35
S 19	19 42	16 52	4 7	9 11	3 22	23 40	0 46	20 29	0 14	22 4	0 23	17 56	0 29	19 36	0 12	0 26	1 26	0 36	15 47	3 47	4 8	9 22	7 23	6 36
M20	19 54	14 40	3 20	9 28	3 23	23 49	0 49	20 39	0 14	22 3	0 23	17 56	0 29	19 37	0 12	0 26	1 26	0 36	15 47	3 49	4 9	9 24	7 22	6 36
T 21	20 7	11 47	2 23	9 47	3 23	23 57	0 51	20 48	0 15	22 1	0 23	17 56	0 29	19 38	0 12	0 26	1 26	0 37	15 47	3 50	4 10	9 26	7 22	6 37
W22	20 19	8 26	1 21	10 8	3 22	24 4	0 53	20 57	0 16	21 59	0 23	17 56	0 29	19 38	0 12	0 25	1 26	0 37	15 47	3 50	4 11	9 27	7 21	6 37
T 23	20 31	4 49	0 17	10 31	3 21	24 10	0 56	21 6	0 16	21 58	0 23	17 56	0 30	19 39	0 12	0 25	1 26	0 37	15 47	3 50	4 13	9 29	7 21	6 37
F 24	20 42	1 3	0s47	10 54	3 19	24 16	0 58	21 14	0 17	21 56	0 23	17 56	0 30	19 40	0 12	0 25	1 26	0 37	15 47	3 50	4 14	9 31	7 20	6 38
S 25	20 53	2n42	1 48	11 19	3 16	24 21	1 0	21 23	0 17	21 54	0 23	17 57	0 30	19 41	0 12	0 25	1 26	0 38	15 47	3 50	4 15	9 32	7 20	6 38
S 26	21 4	6 20	2 43	11 45	3 12	24 25	1 2	21 31	0 18	21 53	0 23	17 57	0 30	19 42	0 12	0 24	1 26	0 38	15 47	3 52	4 16	9 34	7 19	6 39
M27	21 14	9 43	3 32	12 12	3 8	24 29	1 4	21 39	0 19	21 51	0 23	17 57	0 30	19 42	0 12	0 24	1 26	0 38	15 47	3 55	4 18	9 36	7 19	6 39
T 28	21 24	12 44	4 11	12 40	3 4	24 32	1 7	21 47	0 19	21 49	0 23	17 57	0 30	19 43	0 12	0 24	1 26	0 38	15 47	3 58	4 19	9 37	7 18	6 39
W29	21 34	15 14	4 40	13 9	2 59	24 34	1 9	21 54	0 20	21 47	0 23	17 58	0 30	19 44	0 12	0 24	1 26	0 39	15 48	4 3	4 20	9 39	7 18	6 40
T 30	21 43	17 7	4 57	13 39	2 53	24 35	1 11	22 1	0 20	21 45	0 23	17 58	0 30	19 45	0 12	0 24	1 26	0 39	15 48	4 8	4 21	9 40	7 18	6 40
F 31	21n52	18n14	5s 0	14n 9	2s47	24n36	1n13	22n 9	0n21	21n43	0n23	17s59	0s31	19n45	0s12	0s23	1n26	0n39	15s48	4n14	4n23	9n42	7s17	6n41

## ASTRODIENST EPHEMERIS for the year 2109

geocentric

JUNE 2109

00:00 UT

Day	Sid.t	☉	☽	♂	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
S 1	16 37 34	10 <sup>II</sup> 28'29	5 <sup>☾</sup> 4	18 <sup>♂</sup> 10	4 <sup>☾</sup> 5	9 <sup>II</sup> 47	23 <sup>☾</sup> 56	10°R53	29 <sup>♂</sup> 12	4°R16	13 <sup>♂</sup> 5	19°R 7	18 <sup>♂</sup> 53	5 <sup>♂</sup> 11	23°R44	S 1
S 2	16 41 31	11°26'02	17°35	19°41	5°18	10°29	24° 7	10 <sup>♂</sup> 52	29°16	4 <sup>♂</sup> 16	13° 6	18 <sup>♂</sup> 56	18°50	5°18	23 <sup>♂</sup> 44	S 2
M 3	16 45 27	12°23'34	0 <sup>♂</sup> 18	21°15	6°30	11°11	24°19	10°51	29°19	4°16	13° 8	18°48	18°47	5°25	23°43	M 3
T 4	16 49 24	13°21'05	13°13	22°51	7°43	11°53	24°30	10°49	29°23	4°15	13° 9	18°43	18°43	5°31	23°43	T 4
W 5	16 53 20	14°18'35	26°23	24°29	8°56	12°35	24°42	10°48	29°26	4°15	13°10	18°40	18°40	5°38	23°43	W 5
T 6	16 57 17	15°16'03	9 <sup>♂</sup> 49	26°11	10° 9	13°17	24°53	10°47	29°29	4°15	13°11	18°40	18°37	5°45	23°42	T 6
F 7	17 1 13	16°13'30	23°33	27°54	11°22	13°59	25° 5	10°45	29°33	4°14	13°12	18°40	18°34	5°51	23°42	F 7
S 8	17 5 10	17°10'56	7 <sup>♂</sup> 37	29°40	12°34	14°41	25°17	10°43	29°36	4°14	13°14	18°39	18°31	5°58	23°41	S 8
S 9	17 9 7	18° 8'21	22° 1	1 <sup>II</sup> 29	13°47	15°22	25°29	10°42	29°40	4°14	13°15	18°37	18°27	6° 5	23°40	S 9
M10	17 13 3	19° 5'44	6 <sup>♂</sup> 41	3°19	14°59	16° 4	25°41	10°40	29°43	4°14	13°16	18°32	18°24	6°11	23°39	M10
T 11	17 17 0	20° 3'07	21°34	5°13	16°12	16°46	25°53	10°38	29°46	4°14	13°17	18°24	18°21	6°18	23°39	T 11
W12	17 20 56	21° 0'28	6 <sup>♂</sup> 32	7° 8	17°25	17°27	26° 5	10°36	29°50	4°13	13°18	18°14	18°18	6°25	23°38	W12
T 13	17 24 53	21°57'49	21°25	9° 6	18°37	18° 9	26°17	10°34	29°53	4°13	13°19	18° 4	18°15	6°32	23°37	T 13
F 14	17 28 49	22°55'09	6 <sup>♂</sup> 5	11° 6	19°50	18°50	26°29	10°31	29°56	4°13	13°20	17°53	18°12	6°38	23°36	F 14
S 15	17 32 46	23°52'29	20°24	13° 8	21° 2	19°32	26°41	10°29	29°59	4°D13	13°21	17°43	18° 8	6°45	23°35	S 15
S 16	17 36 43	24°49'48	4 <sup>♂</sup> 17	15°12	22°14	20°13	26°53	10°27	0 <sup>II</sup> 3	4°13	13°22	17°35	18° 5	6°52	23°34	S 16
M17	17 40 39	25°47'06	17°42	17°18	23°27	20°54	27° 6	10°24	0° 6	4°13	13°24	17°30	18° 2	6°58	23°32	M17
T 18	17 44 36	26°44'24	0 <sup>♂</sup> 41	19°25	24°39	21°35	27°18	10°22	0° 9	4°13	13°25	17°27	17°59	7° 5	23°31	T 18
W19	17 48 32	27°41'41	13°15	21°34	25°51	22°17	27°30	10°19	0°12	4°14	13°26	17°D27	17°56	7°12	23°30	W19
T 20	17 52 29	28°38'58	25°31	23°44	27° 4	22°58	27°43	10°17	0°15	4°14	13°27	17°R27	17°52	7°18	23°28	T 20
F 21	17 56 25	29°36'15	7 <sup>♂</sup> 32	25°55	28°16	23°39	27°55	10°14	0°19	4°14	13°28	17°26	17°49	7°25	23°27	F 21
S 22	18 0 22	0 <sup>♂</sup> 33'32	19°25	28° 6	29°28	24°20	28° 8	10°11	0°22	4°14	13°29	17°25	17°46	7°32	23°26	S 22
S 23	18 4 18	1°30'48	1 <sup>♂</sup> 15	0 <sup>♂</sup> 18	0 <sup>♂</sup> 40	25° 1	28°21	10° 8	0°25	4°14	13°30	17°21	17°43	7°38	23°24	S 23
M24	18 8 15	2°28'05	13° 5	2°29	1°52	25°42	28°33	10° 5	0°28	4°15	13°31	17°15	17°40	7°45	23°22	M24
T 25	18 12 12	3°25'21	25° 0	4°41	3° 4	26°23	28°46	10° 2	0°31	4°15	13°32	17° 7	17°37	7°52	23°21	T 25
W26	18 16 8	4°22'37	7 <sup>II</sup> 4	6°52	4°16	27° 4	28°58	9°59	0°34	4°15	13°32	16°56	17°33	7°58	23°19	W26
T 27	18 20 5	5°19'52	19°18	9° 2	5°28	27°45	29°11	9°56	0°37	4°16	13°33	16°44	17°30	8° 5	23°17	T 27
F 28	18 24 1	6°17'08	1 <sup>♂</sup> 43	11°11	6°40	28°26	29°24	9°52	0°40	4°16	13°34	16°32	17°27	8°12	23°15	F 28
S 29	18 27 58	7°14'23	14°20	13°19	7°52	29° 7	29°37	9°49	0°43	4°16	13°35	16°20	17°24	8°19	23°14	S 29
S 30	18 31 54	8 <sup>♂</sup> 11'38	27 <sup>♂</sup> 10	15 <sup>♂</sup> 26	9 <sup>♂</sup> 4	29 <sup>II</sup> 47	29 <sup>♂</sup> 50	9 <sup>♂</sup> 46	0 <sup>II</sup> 46	4 <sup>♂</sup> 17	13 <sup>♂</sup> 36	16 <sup>♂</sup> 11	17 <sup>♂</sup> 21	8 <sup>♂</sup> 25	23 <sup>♂</sup> 12	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
S 1	22n 0	18n31	4s49	14n40	2s40	24n36	1n15	22n16	0n22	21n41	0n23	17s59	0s31	19n46	0s12	0s23	1n26	0n39	15s48	4n18	4n24	9n44	7s17	6n41			
S 2	22 8	17 54	4 24	15 12	2 32	24 36	1 17	22 22	0 22	21 39	0 24	17 59	0 31	19 47	0 12	0 23	1 26	0 40	15 48	4 23	4 25	9 45	7 17	6 41			
M 3	22 16	16 23	3 46	15 44	2 24	24 34	1 18	22 29	0 23	21 38	0 24	18 0	0 31	19 48	0 12	0 23	1 26	0 40	15 48	4 26	4 26	9 47	7 16	6 42			
T 4	22 23	14 2	2 56	16 16	2 16	24 32	1 20	22 35	0 23	21 36	0 24	18 0	0 31	19 48	0 12	0 23	1 25	0 40	15 48	4 28	4 28	9 49	7 16	6 42			
W 5	22 30	10 55	1 55	16 49	2 7	24 29	1 22	22 41	0 24	21 34	0 24	18 1	0 31	19 49	0 12	0 23	1 25	0 40	15 48	4 29	4 29	9 50	7 16	6 43			
T 6	22 37	7 10	0 47	17 22	1 58	24 26	1 24	22 47	0 24	21 31	0 24	18 1	0 31	19 50	0 12	0 23	1 25	0 40	15 49	4 29	4 30	9 52	7 16	6 43			
F 7	22 43	2 57	0n26	17 55	1 49	24 21	1 25	22 53	0 25	21 29	0 24	18 2	0 31	19 51	0 12	0 23	1 25	0 41	15 49	4 29	4 31	9 53	7 16	6 43			
S 8	22 48	1s31	1 38	18 27	1 39	24 16	1 27	22 58	0 26	21 27	0 24	18 2	0 32	19 51	0 12	0 23	1 25	0 41	15 49	4 29	4 32	9 55	7 15	6 44			
S 9	22 54	6 0	2 46	19 0	1 29	24 11	1 29	23 3	0 26	21 25	0 24	18 3	0 32	19 52	0 12	0 23	1 25	0 41	15 49	4 30	4 34	9 57	7 15	6 44			
M10	22 59	10 12	3 45	19 32	1 18	24 4	1 30	23 8	0 27	21 23	0 24	18 4	0 32	19 53	0 12	0 23	1 25	0 41	15 49	4 32	4 35	9 58	7 15	6 44			
T 11	23 3	13 49	4 29	20 3	1 8	23 57	1 32	23 13	0 27	21 21	0 24	18 4	0 32	19 53	0 12	0 22	1 25	0 41	15 49	4 35	4 36	10 0	7 15	6 45			
W12	23 7	16 33	4 54	20 33	0 57	23 50	1 33	23 18	0 28	21 19	0 24	18 5	0 32	19 54	0 12	0 22	1 25	0 41	15 50	4 39	4 37	10 1	7 15	6 45			
T 13	23 11	18 9	5 0	21 3	0 46	23 41	1 34	23 22	0 28	21 16	0 24	18 6	0 32	19 55	0 12	0 22	1 25	0 42	15 50	4 43	4 39	10 3	7 15	6 46			
F 14	23 14	18 31	4 46	21 31	0 35	23 32	1 36	23 26	0 29	21 14	0 24	18 6	0 32	19 56	0 12	0 22	1 25	0 42	15 50	4 47	4 40	10 5	7 15	6 46			
S 15	23 17	17 42	4 14	21 58	0 23	23 22	1 37	23 30	0 30	21 12	0 24	18 7	0 32	19 56	0 12	0 23	1 25	0 42	15 50	4 51	4 41	10 6	7 15	6 46			
S 16	23 19	15 49	3 27	22 24	0 12	23 12	1 38	23 34	0 30	21 10	0 24	18 8	0 33	19 57	0 12	0 23	1 25	0 42	15 50	4 54	4 42	10 8	7 15	6 47			
M17	23 21	13 8	2 31	22 48	0 1	23 1	1 39	23 37	0 31	21 7	0 24	18 9	0 33	19 58	0 12	0 23	1 25	0 42	15 50	4 56	4 44	10 9	7 15	6 47			
T 18	23 23	9 52	1 28	23 9	0n 9	22 49	1 40	23 41	0 31	21 5	0 24	18 9	0 33	19 58	0 12	0 23	1 25	0 42	15 51	4 57	4 45	10 11	7 15	6 47			
W19	23 24	6 14	0 22	23 29	0 20	22 37	1 41	23 44	0 32	21 3	0 24	18 10	0 33	19 59	0 12	0 23	1 25	0 42	15 51	4 57	4 46	10 13	7 15	6 48			
T 20	23 25	2 26	0s43	23 47	0 30	22 24	1 42	23 46	0 32	21 0	0 24	18 11	0 33	20 0	0 12	0 23	1 25	0 42	15 51	4 57	4 47	10 14	7 15	6 48			
F 21	23 25	1n23	1 45	24 2	0 40	22 10	1 42	23 49	0 33	20 58	0 25	18 12	0 33	20 0	0 12	0 23	1 25	0 42	15 51	4 58	4 49	10 16	7 15	6 48			
S 22	23 25	5 7	2 41	24 14	0 50	21 56	1 43	23 51	0 33	20 55	0 25	18 13	0 33	20 1	0 12	0 23	1 25	0 42	15 52	4 58	4 50	10 17	7 16	6 49			
S 23	23 25	8 37	3 30	24 24	0 59	21 41	1 44	23 54	0 34	20 53	0 25	18 14	0 33	20 2	0 12	0 23	1 25	0 43	15 52	4 59	4 51	10 19	7 16	6 49			
M24	23 24	11 46	4 10	24 31	1 7	21 26	1 44	23 56	0 34	20 50	0 25	18 15	0 34	20 2	0 12	0 23	1 25	0 43	15 52	5 2	4 52	10 21	7 16	6 49			
T 25	23 23	14 29	4 40	24 35	1 15	21 9	1 45	23 57	0 35	20 48	0 25	18 16	0 34	20 3	0 12	0 24	1 25	0 43	15 52	5 5	4 54	10 22	7 16	6 50			
W26	23 21	16 35	4 57	24 36	1 22	20 53	1 45	23 59	0 36	20 45	0 25	18 17	0 34	20 4	0 12	0 24	1 25	0 43	15 52	5 9	4 55	10 24	7 16	6 50			
T 27	23 19	17 59	5 1	24 35	1 28	20 36	1 46	24 0	0 36	20 43	0 25	18 18	0 34	20 4	0 12	0 24	1 25	0 43	15 53	5 14	4 56	10 25	7 17	6 50			
F 28	23 16	18 33	4 51	24 31	1 34	20 18	1 46	24 1	0 37	20 40	0 25	18 19	0 34	20 5	0 12	0 24	1 25	0 43	15 53	5 19	4 57	10 27	7 17	6 51			
S 29	23 13	18 14	4 27	24 24	1 39	20 0	1 46	24 2	0 37	20 38	0 25	18 20	0 34	20 5	0 12	0 24	1 24	0 43	15 53	5 23	4 59	10 29	7 17	6 51			
S 30	23n10	16n58	3s49	24n14	1n43	19n41	1n46	24n 3	0n38	20n35	0n25	18s21	0s34	20n 6	0s12	0s24	1n24	0n43	15s53	5n27	5n 0	10n30	7s18	6n51			

ASTRODIENST EPHEMERIS for the year 2109  
geocentric

JULY 2109

00:00 UT

Day	Sid.t	☉	☽	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓	♈	♉	Day
M 1	18 35 51	9♉ 8'53	10♊11	17♉31	10♊16	0♉28	0♊ 3	9°R42	0♊49	4♌17	13♉37	16°R 3	17♊18	8♉32	23°R10	M 1
T 2	18 39 47	10° 6'07	23°23	19°35	11°28	1° 9	0°15	9♉39	0°52	4°18	13°38	15♊59	17°14	8°39	23°8	T 2
W 3	18 43 44	11° 3'21	6♊46	21°37	12°40	1°49	0°28	9°35	0°55	4°18	13°39	15°57	17°11	8°45	23° 6	W 3
T 4	18 47 41	12° 0'34	20°22	23°37	13°51	2°30	0°41	9°31	0°58	4°19	13°39	15°D57	17° 8	8°52	23° 4	T 4
F 5	18 51 37	12°57'47	4♌10	25°35	15° 3	3°10	0°54	9°28	1° 0	4°20	13°40	15°57	17° 5	8°59	23° 1	F 5
S 6	18 55 34	13°55'00	18°10	27°31	16°15	3°51	1° 7	9°24	1° 3	4°20	13°41	15°R57	17° 2	9° 5	22°59	S 6
S 7	18 59 30	14°52'12	2♊23	29°26	17°26	4°31	1°20	9°20	1° 6	4°21	13°42	15°56	16°58	9°12	22°57	S 7
M 8	19 3 27	15°49'25	16°46	1♊18	18°38	5°12	1°33	9°16	1° 9	4°22	13°42	15°53	16°55	9°19	22°55	M 8
T 9	19 7 23	16°46'36	1♊17	3° 8	19°49	5°52	1°47	9°12	1°11	4°22	13°43	15°47	16°52	9°25	22°52	T 9
W10	19 11 20	17°43'48	15°50	4°57	21° 0	6°32	2° 0	9° 8	1°14	4°23	13°44	15°40	16°49	9°32	22°50	W10
T 11	19 15 16	18°41'00	0♉20	6°43	22°12	7°12	2°13	9° 4	1°17	4°24	13°45	15°31	16°46	9°39	22°47	T 11
F 12	19 19 13	19°38'12	14°39	8°27	23°23	7°53	2°26	9° 0	1°19	4°25	13°45	15°22	16°43	9°46	22°45	F 12
S 13	19 23 10	20°35'24	28°42	10°10	24°34	8°33	2°39	8°56	1°22	4°26	13°46	15°15	16°39	9°52	22°42	S 13
S 14	19 27 6	21°32'36	12♌24	11°50	25°45	9°13	2°52	8°52	1°24	4°27	13°46	15° 9	16°36	9°59	22°40	S 14
M15	19 31 3	22°29'48	25°43	13°28	26°57	9°53	3° 6	8°48	1°27	4°28	13°47	15° 5	16°33	10° 6	22°37	M15
T 16	19 34 59	23°27'01	8♊39	15° 5	28° 8	10°33	3°19	8°44	1°29	4°28	13°48	15° 3	16°30	10°12	22°35	T 16
W17	19 38 56	24°24'14	21°13	16°39	29°19	11°13	3°32	8°40	1°32	4°29	13°48	15°D 3	16°27	10°19	22°32	W17
T 18	19 42 52	25°21'28	3♊30	18°11	0♊30	11°53	3°45	8°35	1°34	4°30	13°49	15° 4	16°24	10°26	22°29	T 18
F 19	19 46 49	26°18'43	15°34	19°42	1°40	12°33	3°59	8°31	1°36	4°32	13°49	15° 5	16°20	10°32	22°27	F 19
S 20	19 50 45	27°15'58	27°28	21°10	2°51	13°13	4°12	8°27	1°39	4°33	13°50	15°R 6	16°17	10°39	22°24	S 20
S 21	19 54 42	28°13'14	9♉20	22°36	4° 2	13°53	4°25	8°22	1°41	4°34	13°50	15° 5	16°14	10°46	22°21	S 21
M22	19 58 39	29°10'30	21°12	24° 0	5°13	14°33	4°38	8°18	1°43	4°35	13°51	15° 2	16°11	10°53	22°18	M22
T 23	20 2 35	0♊ 7'47	3♊11	25°22	6°23	15°12	4°52	8°14	1°46	4°36	13°51	14°58	16° 8	10°59	22°15	T 23
W24	20 6 32	1° 5'05	15°20	26°42	7°34	15°52	5° 5	8° 9	1°48	4°37	13°52	14°52	16° 4	11° 6	22°12	W24
T 25	20 10 28	2° 2'24	27°41	27°59	8°45	16°32	5°18	8° 5	1°50	4°38	13°52	14°45	16° 1	11°13	22°10	T 25
F 26	20 14 25	2°59'44	10♉18	29°15	9°55	17°11	5°32	8° 0	1°52	4°40	13°53	14°38	15°58	11°19	22° 7	F 26
S 27	20 18 21	3°57'04	23°11	0♊28	11° 5	17°51	5°45	7°56	1°54	4°41	13°53	14°31	15°55	11°26	22° 4	S 27
S 28	20 22 18	4°54'25	6♊19	1°38	12°16	18°31	5°58	7°51	1°56	4°42	13°53	14°25	15°52	11°33	22° 1	S 28
M29	20 26 14	5°51'46	19°41	2°46	13°26	19°10	6°12	7°47	1°58	4°43	13°54	14°21	15°49	11°39	21°58	M29
T 30	20 30 11	6°49'09	3♊17	3°52	14°36	19°50	6°25	7°42	2° 0	4°45	13°54	14°19	15°45	11°46	21°55	T 30
W31	20 34 8	7♊46'31	17♊ 3	4♊55	15♊46	20♉29	6♊38	7♉38	2♊ 2	4♌46	13♉54	14°D18	15♊42	11♉53	21°52	W31

Day	☉	☾		♊		♋		♌		♍		♎		♏		♐		♑		♒	♓	♈	♉	
	decl	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	decl	decl	decl	lat
M 1	23n 6	14n49	2s58	24n 2	1n47	19n22	1n46	24n 3	0n38	20n32	0n25	18s22	0s34	20n 7	0s12	0s25	1n24	0n43	15s54	5n30	5n 1	10n32	7s18	6n52
T 2	23 2	11 52	1 57	23 48	1 49	19 2	1 46	24 4	0 39	20 30	0 25	18 23	0 35	20 7	0 12	0 25	1 24	0 43	15 54	5 32	5 2	10 33	7 18	6 52
W 3	22 58	8 16	0 49	23 31	1 51	18 41	1 46	24 4	0 39	20 27	0 25	18 24	0 35	20 8	0 12	0 25	1 24	0 43	15 54	5 32	5 3	10 35	7 19	6 52
T 4	22 53	4 11	0n24	23 12	1 52	18 21	1 46	24 4	0 40	20 24	0 25	18 25	0 35	20 9	0 12	0 25	1 24	0 43	15 54	5 32	5 5	10 37	7 19	6 52
F 5	22 47	0s11	1 36	22 52	1 53	17 59	1 45	24 3	0 40	20 21	0 25	18 26	0 35	20 9	0 12	0 26	1 24	0 43	15 55	5 32	5 6	10 38	7 20	6 53
S 6	22 42	4 36	2 43	22 29	1 53	17 38	1 45	24 3	0 41	20 19	0 25	18 27	0 35	20 10	0 12	0 26	1 24	0 43	15 55	5 32	5 7	10 40	7 20	6 53
S 7	22 36	8 49	3 42	22 5	1 52	17 15	1 45	24 2	0 41	20 16	0 26	18 28	0 35	20 10	0 12	0 26	1 24	0 43	15 55	5 33	5 8	10 41	7 20	6 53
M 8	22 29	12 34	4 27	21 39	1 50	16 53	1 44	24 1	0 42	20 13	0 26	18 29	0 35	20 11	0 12	0 27	1 24	0 43	15 55	5 34	5 10	10 43	7 21	6 53
T 9	22 22	15 35	4 55	21 12	1 48	16 30	1 43	24 0	0 42	20 10	0 26	18 31	0 35	20 11	0 12	0 27	1 24	0 43	15 56	5 36	5 11	10 44	7 21	6 54
W10	22 15	17 37	5 5	20 43	1 46	16 6	1 43	23 58	0 43	20 7	0 26	18 32	0 35	20 12	0 12	0 27	1 24	0 42	15 56	5 39	5 12	10 46	7 22	6 54
T 11	22 7	18 30	4 55	20 14	1 42	15 42	1 42	23 57	0 43	20 4	0 26	18 33	0 36	20 12	0 12	0 28	1 24	0 42	15 56	5 42	5 13	10 48	7 23	6 54
F 12	21 59	18 12	4 26	19 43	1 38	15 18	1 41	23 55	0 44	20 1	0 26	18 34	0 36	20 13	0 12	0 28	1 24	0 42	15 56	5 46	5 15	10 49	7 23	6 54
S 13	21 51	16 47	3 42	19 11	1 34	14 54	1 40	23 53	0 44	19 58	0 26	18 35	0 36	20 13	0 12	0 28	1 24	0 42	15 57	5 49	5 16	10 51	7 24	6 55
S 14	21 42	14 25	2 46	18 39	1 29	14 29	1 39	23 51	0 45	19 56	0 26	18 36	0 36	20 14	0 12	0 29	1 24	0 42	15 57	5 51	5 17	10 52	7 24	6 55
M15	21 33	11 20	1 42	18 6	1 23	14 3	1 38	23 48	0 45	19 53	0 26	18 38	0 36	20 14	0 12	0 29	1 24	0 42	15 57	5 53	5 18	10 54	7 25	6 55
T 16	21 23	7 47	0 34	17 32	1 17	13 37	1 36	23 46	0 46	19 50	0 26	18 39	0 36	20 15	0 12	0 30	1 24	0 42	15 58	5 53	5 20	10 55	7 26	6 55
W17	21 13	3 59	0s33	16 57	1 10	13 11	1 35	23 43	0 46	19 47	0 26	18 40	0 36	20 15	0 12	0 30	1 24	0 42	15 58	5 53	5 21	10 57	7 26	6 55
T 18	21 3	0 6	1 38	16 22	1 3	12 45	1 34	23 40	0 47	19 44	0 26	18 41	0 36	20 16	0 12	0 31	1 24	0 42	15 58	5 53	5 22	10 59	7 27	6 56
F 19	20 52	3n42	2 37	15 47	0 56	12 18	1 32	23 37	0 47	19 41	0 26	18 42	0 36	20 16	0 12	0 31	1 24	0 42	15 58	5 52	5 23	11 0	7 28	6 56
S 20	20 41	7 19	3 29	15 12	0 48	11 51	1 31	23 33	0 48	19 37	0 26	18 44	0 37	20 17	0 12	0 31	1 24	0 41	15 59	5 52	5 24	11 2	7 28	6 56
S 21	20 30	10 37	4 11	14 36	0 40	11 24	1 29	23 30	0 48	19 34	0 27	18 45	0 37	20 17	0 12	0 32	1 24	0 41	15 59	5 52	5 26	11 3	7 29	6 56
M22	20 19	13 30	4 43	14 0	0 31	10 57	1 27	23 26	0 49	19 31	0 27	18 46	0 37	20 18	0 12	0 32	1 24	0 41	15 59	5 53	5 27	11 5	7 30	6 56
T 23	20 7	15 50	5 2	13 25	0 22	10 29	1 25	23 22	0 49	19 28	0 27	18 47	0 37	20 18	0 12	0 33	1 24	0 41	16 0	5 55	5 28	11 6	7 31	6 56
W24	19 54	17 30	5 9	12 49	0 13	10 1	1 23	23 18	0 49	19 25	0 27	18 49	0 37	20 19	0 12	0 33	1 24	0 41	16 0	5 57	5 29	11 8	7 31	6 56
T 25	19 41	18 23	5 1	12 13	0 3	9 32	1 21	23 14	0 50	19 22	0 27	18 50	0 37	20 19	0 12	0 34	1 23	0 41	16 0	6 0	5 31	11 10	7 32	6 57
F 26	19 28	18 24	4 39	11 38	0s 7	9 4	1 19	23 9	0 50	19 19	0 27	18 51	0 37	20 20	0 12	0 34	1 23	0 40	16 1	6 3	5 32	11 11	7 33	6 57
S 27	19 15	17 28	4 2	11 2	0 17	8 35	1 17	23 4	0 51	19 15	0 27	18 52	0 37	20 20	0 12	0 35	1 23	0 40	16 1	6 6	5 33	11 13	7 34	6 57
S 28	19 2	15 35	3 12	10 28	0 27	8 6	1 15	23 0	0 51	19 12	0 27	18 54	0 37	20 20	0 12	0 35	1 23	0 40	16 1	6 8	5 34	11 14	7 35	6 57
M29	18 48	12 51	2 10	9 53	0 38	7 37	1 12	22 54	0 52	19 9	0 27	18 55	0 37	20 21	0 12	0 36	1 23	0 40	16 1	6 9	5 36	11 16	7 35	6 57
T 30	18 33	9 22	1 0	9 19	0 49	7 8	1 10	22 49	0 52	19 6	0 27	18 56	0 37	20 21	0 12	0 37	1 23	0 40	16 2	6 10	5 37	11 17	7 36	6 57
W31	18n19	5n20	0n15	8n46	1s 0	6n38	1n 7	22n44	0n53	19n 3	0n27	18s57	0s38	20n21	0s12	0s37	1n23	0n39	16s 2	6n10	5n38	11n19	7s37	6n57

Julian Day Number = 2491537.5, Delta T = 97.76 sec  
Ecliptic obliquity = 23°25'21", Nutation = - 0°00'03", out-of-bounds declination in red  
Ayanamsha: Fagan/Bradley = 26°16'13", Lahiri = 25°23'13"



ASTRODIENST EPHEMERIS for the year 2109  
geocentric

AUGUST 2109

00:00 UT

Day	Sid.t	☉	☽	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓	♈	♉	Day
T 1	20 38 4	8♌43'55	0♊59	5♊55	16♊57	21♊9	6♌52	7°R33	2♊4	4♌48	13♊54	14♊19	15♊39	12♊0	21°R49	T 1
F 2	20 42 1	9°41'18	15° 1	6°53	18° 6	21°48	7° 5	7♌29	2° 5	4°49	13°55	14°21	15°36	12° 6	21°45	F 2
S 3	20 45 57	10°38'43	29° 9	7°47	19°16	22°27	7°18	7°25	2° 7	4°50	13°55	14°22	15°33	12°13	21°42	S 3
S 4	20 49 54	11°36'08	13♊20	8°38	20°26	23° 7	7°32	7°20	2° 9	4°52	13°55	14°R22	15°30	12°20	21°39	S 4
M 5	20 53 50	12°33'33	27°34	9°26	21°36	23°46	7°45	7°16	2°10	4°53	13°55	14°21	15°26	12°26	21°36	M 5
T 6	20 57 47	13°30'59	11♊46	10°11	22°46	24°25	7°58	7°11	2°12	4°55	13°56	14°19	15°23	12°33	21°33	T 6
W 7	21 1 43	14°28'26	25°55	10°52	23°55	25° 4	8°11	7° 7	2°14	4°57	13°56	14°16	15°20	12°40	21°30	W 7
T 8	21 5 40	15°25'54	9♊58	11°29	25° 5	25°43	8°25	7° 2	2°15	4°58	13°56	14°12	15°17	12°46	21°27	T 8
F 9	21 9 37	16°23'22	23°50	12° 3	26°14	26°23	8°38	6°58	2°17	5° 0	13°56	14° 8	15°14	12°53	21°24	F 9
S 10	21 13 33	17°20'51	7♊28	12°32	27°23	27° 2	8°51	6°54	2°18	5° 1	13°56	14° 4	15°10	13° 0	21°20	S 10
S 11	21 17 30	18°18'22	20°50	12°57	28°33	27°41	9° 4	6°49	2°20	5° 3	13°56	14° 1	15° 7	13° 7	21°17	S 11
M12	21 21 26	19°15'53	3♊54	13°17	29°42	28°20	9°18	6°45	2°21	5° 5	13°56	14° 0	15° 4	13°13	21°14	M12
T 13	21 25 23	20°13'25	16°40	13°33	0♊51	28°59	9°31	6°41	2°22	5° 6	13°56	13°D59	15° 1	13°20	21°11	T 13
W14	21 29 19	21°10'59	29°10	13°43	2° 0	29°38	9°44	6°36	2°23	5° 8	13°R56	14° 0	14°58	13°27	21° 8	W14
T 15	21 33 16	22° 8'34	11♊24	13°49	3° 8	0♌16	9°57	6°32	2°25	5°10	13°56	14° 1	14°55	13°33	21° 5	T 15
F 16	21 37 12	23° 6'10	23°27	13°R49	4°17	0°55	10°10	6°28	2°26	5°11	13°56	14° 3	14°51	13°40	21° 1	F 16
S 17	21 41 9	24° 3'48	5♊22	13°44	5°26	1°34	10°23	6°24	2°27	5°13	13°56	14° 4	14°48	13°47	20°58	S 17
S 18	21 45 6	25° 1'28	17°15	13°33	6°34	2°13	10°36	6°20	2°28	5°15	13°56	14° 5	14°45	13°53	20°55	S 18
M19	21 49 2	25°59'08	29° 8	13°16	7°43	2°52	10°50	6°16	2°29	5°17	13°56	14°R 5	14°42	14° 0	20°52	M19
T 20	21 52 59	26°56'51	11♊8	12°54	8°51	3°30	11° 3	6°12	2°30	5°19	13°56	14° 5	14°39	14° 7	20°49	T 20
W21	21 56 55	27°54'35	23°18	12°26	9°59	4° 9	11°16	6° 8	2°31	5°20	13°56	14° 3	14°36	14°14	20°46	W21
T 22	22 0 52	28°52'21	5♊43	11°53	11° 7	4°48	11°29	6° 4	2°32	5°22	13°55	14° 2	14°32	14°20	20°42	T 22
F 23	22 4 48	29°50'08	18°25	11°15	12°15	5°26	11°42	6° 0	2°33	5°24	13°55	14° 0	14°29	14°27	20°39	F 23
S 24	22 8 45	0♊47'57	1♌28	10°33	13°23	6° 5	11°55	5°56	2°33	5°26	13°55	13°58	14°26	14°34	20°36	S 24
S 25	22 12 41	1°45'47	14°51	9°46	14°31	6°44	12° 7	5°52	2°34	5°28	13°55	13°56	14°23	14°40	20°33	S 25
M26	22 16 38	2°43'39	28°33	8°56	15°39	7°22	12°20	5°48	2°35	5°30	13°55	13°55	14°20	14°47	20°30	M26
T 27	22 20 34	3°41'32	12♊33	8° 4	16°46	8° 1	12°33	5°45	2°35	5°32	13°54	13°D55	14°16	14°54	20°27	T 27
W28	22 24 31	4°39'27	26°46	7°10	17°53	8°39	12°46	5°41	2°36	5°34	13°54	13°55	14°13	15° 0	20°24	W28
T 29	22 28 28	5°37'23	11♊8	6°15	19° 1	9°17	12°59	5°37	2°36	5°36	13°54	13°56	14°10	15° 7	20°21	T 29
F 30	22 32 24	6°35'20	25°34	5°21	20° 8	9°56	13°11	5°34	2°37	5°38	13°53	13°56	14° 7	15°14	20°18	F 30
S 31	22 36 21	7♊33'19	10♊0	4♊28	21♊15	10♌34	13♌24	5♌31	2♊37	5♌40	13♊53	13♊57	14♊4	15♊21	20°15	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	decl lat
T 1	18n 4	0n59	1n30	8n13	1s12	6n 9	1n 5	22n38	0n53	18n59	0n27	18s58	0s38	20n22
F 2	17 49	3s27	2 40	7 41	1 23	5 39	1 2	22 32	0 54	18 56	0 28	19 0	0 38	20 22
S 3	17 33	7 43	3 41	7 10	1 35	5 9	0 59	22 27	0 54	18 53	0 28	19 1	0 38	20 23
S 4	17 18	11 34	4 28	6 40	1 47	4 39	0 56	22 20	0 54	18 49	0 28	19 2	0 38	20 23
M 5	17 2	14 44	4 59	6 11	1 59	4 9	0 53	22 14	0 55	18 46	0 28	19 3	0 38	20 23
T 6	16 45	17 1	5 12	5 44	2 11	3 39	0 50	22 8	0 55	18 43	0 28	19 5	0 38	20 24
W 7	16 29	18 16	5 6	5 17	2 23	3 8	0 47	22 1	0 56	18 39	0 28	19 6	0 38	20 24
T 8	16 12	18 22	4 42	4 52	2 35	2 38	0 44	21 54	0 56	18 36	0 28	19 7	0 38	20 24
F 9	15 55	17 22	4 1	4 28	2 46	2 7	0 41	21 47	0 57	18 33	0 28	19 8	0 38	20 24
S 10	15 37	15 22	3 7	4 6	2 58	1 37	0 38	21 40	0 57	18 29	0 28	19 9	0 38	20 25
S 11	15 20	12 35	2 4	3 46	3 10	1 6	0 34	21 33	0 58	18 26	0 28	19 10	0 38	20 25
M12	15 2	9 13	0 55	3 28	3 21	0 35	0 31	21 26	0 58	18 22	0 28	19 12	0 38	20 25
T 13	14 44	5 29	0s15	3 12	3 32	0 5	0 27	21 18	0 58	18 19	0 29	19 13	0 39	20 26
W14	14 26	1 36	1 23	2 58	3 43	0s26	0 24	21 10	0 59	18 16	0 29	19 14	0 39	20 26
T 15	14 7	2n17	2 25	2 47	3 53	0 57	0 20	21 3	0 59	18 12	0 29	19 15	0 39	20 26
F 16	13 48	6 0	3 21	2 38	4 2	1 27	0 16	20 55	1 0	18 9	0 29	19 16	0 39	20 26
S 17	13 29	9 25	4 7	2 32	4 11	1 58	0 12	20 46	1 0	18 5	0 29	19 17	0 39	20 26
S 18	13 10	12 27	4 42	2 29	4 19	2 29	0 8	20 38	1 0	18 2	0 29	19 18	0 39	20 27
M19	12 51	14 59	5 5	2 29	4 26	2 59	0 5	20 30	1 1	17 58	0 29	19 19	0 39	20 27
T 20	12 31	16 53	5 15	2 31	4 32	3 30	0 1	20 21	1 1	17 55	0 29	19 20	0 39	20 27
W21	12 11	18 4	5 12	2 38	4 36	4 0	0s 4	20 12	1 2	17 51	0 29	19 22	0 39	20 27
T 22	11 51	18 25	4 54	2 47	4 40	4 31	0 8	20 3	1 2	17 48	0 29	19 23	0 39	20 27
F 23	11 31	17 51	4 21	3 0	4 41	5 1	0 12	19 54	1 3	17 44	0 30	19 24	0 39	20 28
S 24	11 11	16 21	3 34	3 16	4 41	5 32	0 16	19 45	1 3	17 41	0 30	19 25	0 39	20 28
S 25	10 50	13 55	2 34	3 35	4 40	6 2	0 20	19 36	1 3	17 37	0 30	19 26	0 39	20 28
M26	10 30	10 39	1 24	3 56	4 36	6 32	0 25	19 27	1 4	17 34	0 30	19 27	0 39	20 28
T 27	10 9	6 44	0 8	4 21	4 31	7 2	0 29	19 17	1 4	17 30	0 30	19 28	0 39	20 28
W28	9 48	2 22	1n11	4 48	4 24	7 32	0 33	19 7	1 4	17 27	0 30	19 28	0 39	20 28
T 29	9 27	2s10	2 25	5 16	4 14	8 1	0 38	18 58	1 5	17 23	0 30	19 29	0 39	20 28
F 30	9 5	6 36	3 31	5 46	4 3	8 31	0 42	18 48	1 5	17 20	0 30	19 30	0 40	20 28
S 31	8n44	10s38	4n23	6n17	3s50	9s 0	0s47	18n38	1n 6	17n16	0n30	19s31	0s40	20n28

Julian Day Number = 2491568.5, Delta T = 97.80 sec  
Ecliptic obliquity = 23°25'21", Nutation = - 0°00'03", out-of-bounds declination in red  
Ayanamsha: Fagan/Bradley = 26°16'17", Lahiri = 25°23'17"

# ASTRODIENST EPHEMERIS for the year 2109

## geocentric

SEPTEMBER 2109

00:00 UT

Day	Sid.t	☉	☽	♂	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
S 1	22 40 17	8♐31'19	24♐21	3°R39	22♐22	11♐12	13♐37	5°R27	2♐38	5♐42	13°R53	13♐57	14♐1	15♐27	20°R12	S 1
M 2	22 44 14	9°29'20	8♐35	2♐53	23°28	11°51	13°49	5♐24	2°38	5°44	13♐52	13°R58	13°57	15°34	20°R9	M 2
T 3	22 48 10	10°27'23	22°38	2°13	24°35	12°29	14°2	5°21	2°38	5°46	13°52	13°57	13°54	15°41	20°6	T 3
W 4	22 52 7	11°25'27	6♐30	1°38	25°41	13°7	14°14	5°17	2°38	5°48	13°51	13°57	13°51	15°47	20°3	W 4
T 5	22 56 3	12°23'33	20°10	1°10	26°48	13°45	14°27	5°14	2°39	5°50	13°51	13°57	13°48	15°54	20°0	T 5
F 6	23 0 0	13°21'40	3♐36	0°50	27°54	14°23	14°39	5°11	2°39	5°52	13°51	13°57	13°45	16°1	19°58	F 6
S 7	23 3 57	14°19'48	16°48	0°37	28°59	15°2	14°52	5°8	2°39	5°54	13°50	13°D57	13°41	16°8	19°55	S 7
S 8	23 7 53	15°17'58	29°46	0°D34	0♐5	15°40	15°4	5°5	2°R39	5°56	13°50	13°57	13°38	16°14	19°52	S 8
M 9	23 11 50	16°16'09	12♐31	0°39	1°11	16°18	15°16	5°3	2°39	5°58	13°49	13°R57	13°35	16°21	19°49	M 9
T 10	23 15 46	17°14'22	25°3	0°53	2°16	16°56	15°29	5°0	2°39	6°1	13°49	13°57	13°32	16°28	19°47	T 10
W11	23 19 43	18°12'37	7♐22	1°15	3°21	17°34	15°41	4°57	2°39	6°3	13°48	13°57	13°29	16°34	19°44	W11
T 12	23 23 39	19°10'54	19°31	1°47	4°26	18°11	15°53	4°55	2°38	6°5	13°47	13°56	13°26	16°41	19°41	T 12
F 13	23 27 36	20°9'13	1♐31	2°27	5°31	18°49	16°5	4°52	2°38	6°7	13°47	13°55	13°22	16°48	19°39	F 13
S 14	23 31 32	21°7'33	13°25	3°15	6°36	19°27	16°17	4°50	2°38	6°9	13°46	13°55	13°19	16°54	19°36	S 14
S 15	23 35 29	22°5'56	25°16	4°11	7°40	20°5	16°29	4°47	2°37	6°11	13°46	13°54	13°16	17°1	19°34	S 15
M16	23 39 26	23°4'21	7♐9	5°14	8°44	20°43	16°41	4°45	2°37	6°14	13°45	13°53	13°13	17°8	19°31	M16
T 17	23 43 22	24°2'48	19°7	6°24	9°48	21°21	16°53	4°43	2°37	6°16	13°44	13°D52	13°10	17°15	19°29	T 17
W18	23 47 19	25°1'17	1♐16	7°41	10°52	21°58	17°5	4°41	2°36	6°18	13°44	13°52	13°7	17°21	19°26	W18
T 19	23 51 15	25°59'49	13°39	9°3	11°55	22°36	17°16	4°39	2°36	6°20	13°43	13°53	13°3	17°28	19°24	T 19
F 20	23 55 12	26°58'22	26°20	10°30	12°58	23°14	17°28	4°37	2°35	6°22	13°42	13°54	13°0	17°35	19°22	F 20
S 21	23 59 8	27°56'58	9♐24	12°1	14°2	23°51	17°39	4°35	2°34	6°25	13°41	13°55	12°57	17°41	19°20	S 21
S 22	0 3 5	28°55'36	22°52	13°37	15°4	24°29	17°51	4°34	2°34	6°27	13°41	13°56	12°54	17°48	19°17	S 22
M23	0 7 1	29°54'15	6♐45	15°15	16°7	25°6	18°2	4°32	2°33	6°29	13°40	13°R57	12°51	17°55	19°15	M23
T 24	0 10 58	0♐52'57	21°2	16°57	17°9	25°44	18°14	4°31	2°32	6°31	13°39	13°57	12°47	18°2	19°13	T 24
W25	0 14 54	1°51'41	5♐37	18°40	18°11	26°21	18°25	4°29	2°31	6°33	13°38	13°56	12°44	18°8	19°11	W25
T 26	0 18 51	2°50'27	20°25	20°26	19°13	26°59	18°36	4°28	2°30	6°36	13°38	13°54	12°41	18°15	19°9	T 26
F 27	0 22 48	3°49'14	5♐19	22°12	20°14	27°36	18°47	4°27	2°30	6°38	13°37	13°52	12°38	18°22	19°7	F 27
S 28	0 26 44	4°48'04	20°9	24°0	21°15	28°14	18°58	4°26	2°29	6°40	13°36	13°49	12°35	18°28	19°5	S 28
S 29	0 30 41	5°46'55	4♐49	25°49	22°16	28°51	19°9	4°24	2°28	6°42	13°35	13°47	12°32	18°35	19°3	S 29
M30	0 34 37	6♐45'48	19♐14	27♐38	23♐17	29♐28	19♐20	4♐24	2♐26	6♐45	13♐34	13♐45	12♐28	18♐42	19°2	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
S 1	8n22	14s 1	4n59	6n48	3s36	9s30	0s52	18n28	1n 6	17n13	0n31	19s32	0s40	20n29	0s12	1s 0	1n23	0n30	16s12	6n18	6n17	12n 8	8s10	6n55	
M 2	8 0	16 31	5 16	7 19	3 20	9 59	0 56	18 17	1 6	17 9	0 31	19 33	0 40	20 29	0 12	1 1	1 23	0 29	16 12	6 18	6 18	12 9	8 11	6 55	
T 3	7 39	18 0	5 14	7 49	3 4	10 28	1 1	18 7	1 7	17 6	0 31	19 34	0 40	20 29	0 12	1 2	1 23	0 29	16 12	6 18	6 20	12 11	8 12	6 55	
W 4	7 17	18 23	4 53	8 18	2 46	10 56	1 6	17 56	1 7	17 2	0 31	19 35	0 40	20 29	0 12	1 2	1 23	0 29	16 13	6 18	6 21	12 12	8 13	6 54	
T 5	6 54	17 41	4 16	8 45	2 27	11 25	1 10	17 46	1 8	16 59	0 31	19 35	0 40	20 29	0 12	1 3	1 22	0 28	16 13	6 19	6 22	12 14	8 14	6 54	
F 6	6 32	16 0	3 26	9 10	2 8	11 53	1 15	17 35	1 8	16 55	0 31	19 36	0 40	20 29	0 12	1 4	1 22	0 28	16 13	6 19	6 23	12 15	8 15	6 54	
S 7	6 10	13 29	2 25	9 33	1 49	12 21	1 20	17 24	1 8	16 52	0 31	19 37	0 40	20 29	0 12	1 5	1 22	0 27	16 14	6 19	6 25	12 17	8 17	6 54	
S 8	5 47	10 20	1 18	9 52	1 30	12 49	1 25	17 13	1 9	16 48	0 31	19 38	0 40	20 29	0 12	1 6	1 22	0 27	16 14	6 19	6 26	12 18	8 18	6 54	
M 9	5 25	6 44	0 8	10 8	1 11	13 16	1 29	17 2	1 9	16 45	0 32	19 38	0 40	20 29	0 12	1 7	1 22	0 27	16 14	6 19	6 27	12 20	8 19	6 53	
T 10	5 2	2 54	1s 1	10 20	0 53	13 44	1 34	16 51	1 9	16 41	0 32	19 39	0 40	20 29	0 12	1 7	1 22	0 26	16 14	6 19	6 28	12 21	8 20	6 53	
W11	4 40	0n59	2 6	10 29	0 35	14 11	1 39	16 40	1 10	16 38	0 32	19 40	0 40	20 29	0 12	1 8	1 22	0 26	16 15	6 19	6 29	12 23	8 21	6 53	
T 12	4 17	4 47	3 5	10 33	0 18	14 37	1 44	16 29	1 10	16 34	0 32	19 40	0 40	20 29	0 12	1 9	1 22	0 25	16 15	6 19	6 31	12 24	8 22	6 52	
F 13	3 54	8 20	3 54	10 34	0 1	15 4	1 49	16 17	1 11	16 31	0 32	19 41	0 40	20 29	0 12	1 10	1 22	0 25	16 15	6 19	6 32	12 26	8 23	6 52	
S 14	3 31	11 30	4 33	10 31	0n14	15 30	1 54	16 6	1 11	16 27	0 32	19 42	0 40	20 29	0 12	1 11	1 22	0 25	16 15	6 20	6 33	12 27	8 24	6 52	
S 15	3 8	14 12	5 0	10 24	0 28	15 56	1 59	15 54	1 11	16 24	0 32	19 42	0 40	20 28	0 12	1 12	1 22	0 24	16 16	6 20	6 34	12 28	8 25	6 52	
M16	2 45	16 19	5 15	10 13	0 41	16 21	2 4	15 43	1 12	16 21	0 32	19 43	0 40	20 28	0 12	1 13	1 22	0 24	16 16	6 20	6 36	12 30	8 26	6 51	
T 17	2 22	17 44	5 15	9 59	0 53	16 46	2 9	15 31	1 12	16 17	0 33	19 43	0 40	20 28	0 12	1 13	1 22	0 23	16 16	6 20	6 37	12 31	8 27	6 51	
W18	1 59	18 23	5 2	9 41	1 4	17 11	2 13	15 19	1 12	16 14	0 33	19 44	0 40	20 28	0 12	1 14	1 22	0 23	16 16	6 20	6 38	12 33	8 28	6 51	
T 19	1 35	18 10	4 35	9 19	1 14	17 36	2 18	15 7	1 13	16 10	0 33	19 44	0 40	20 28	0 12	1 15	1 22	0 22	16 17	6 20	6 39	12 34	8 29	6 50	
F 20	1 12	17 2	3 54	8 54	1 22	18 0	2 23	14 55	1 13	16 7	0 33	19 45	0 40	20 28	0 12	1 16	1 22	0 22	16 17	6 20	6 40	12 36	8 30	6 50	
S 21	0 49	15 0	3 0	8 26	1 30	18 24	2 28	14 43	1 13	16 3	0 33	19 45	0 40	20 28	0 12	1 17	1 22	0 22	16 17	6 19	6 42	12 37	8 31	6 50	
S 22	0 26	12 5	1 54	7 55	1 36	18 47	2 33	14 31	1 14	16 0	0 33	19 46	0 40	20 28	0 12	1 18	1 22	0 21	16 17	6 19	6 43	12 39	8 32	6 49	
M23	0 2	8 25	0 40	7 22	1 41	19 10	2 38	14 18	1 14	15 57	0 33	19 46	0 40	20 28	0 12	1 19	1 22	0 21	16 17	6 19	6 44	12 40	8 33	6 49	
T 24	0s21	4 9	0n39	6 46	1 45	19 33	2 43	14 6	1 14	15 53	0 34	19 46	0 40	20 27	0 12	1 20	1 22	0 20	16 18	6 19	6 45	12 42	8 34	6 49	
W25	0 44	0s26	1 57	6 8	1 48	19 55	2 47	13 54	1 15	15 50	0 34	19 47	0 40	20 27	0 12	1 20	1 22	0 20	16 18	6 19	6 46	12 43	8 35	6 48	
T 26	1 8	5 4	3 8	5 29	1 50	20 17	2 52	13 41	1 15	15 47	0 34	19 47	0 40	20 27	0 12	1 21	1 22	0 20	16 18	6 20	6 48	12 45	8 36	6 48	
F 27	1 31	9 24	4 7	4 48	1 51	20 38	2 57	13 29	1 16	15 43	0 34	19 47	0 40	20 27	0 12	1 22	1 22	0 19	16 18	6 21	6 49	12 46	8 37	6 47	
S 28	1 54	13 8	4 48	4 6	1 52	20 59	3 2	13 16	1 16	15 40	0 34	19 48	0 40	20 27	0 12	1 23	1 22	0 19	16 18	6 22	6 50	12 48	8 38	6 47	
S 29	2 18	15 59	5 11	3 22	1 52	21 19	3 6	13 3	1 16	15 37	0 34	19 48	0 40	20 27	0 12	1 24	1 22	0 18	16 19	6 23	6 51	12 49	8 39	6 47	
M30	2s41	17s47	5n13	2n38	1ns1	21s39	3s11	12n51	1n17	15n33	0n35	19s48	0s40	20n26	0s12	1s25	1n22	0n18	16s19	6n23	6n53	12n50	8s40	6n46	

ASTRODIENST EPHEMERIS for the year 2109  
geocentric

OCTOBER 2109

00:00 UT

Day	Sid.t	☉	☽	♀	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
T 1	0 38 34	7♂44'43	3♂20	29♂27	24♂17	0♂6	19♂31	4°R23	2°R25	6♂47	13°R33	13°D44	12♂25	18♂49	19°R 0	T 1
W 2	0 42 30	8°43'39	17° 6	1♂16	25°16	0°43	19°42	4♂22	2♂24	6°49	13♂33	13♂44	12°22	18°55	18♂58	W 2
T 3	0 46 27	9°42'38	0♂31	3° 5	26°16	1°20	19°53	4°21	2°23	6°51	13°32	13°45	12°19	19° 2	18°57	T 3
F 4	0 50 23	10°41'37	13°39	4°53	27°15	1°57	20° 3	4°21	2°22	6°53	13°31	13°47	12°16	19° 9	18°55	F 4
S 5	0 54 20	11°40'39	26°31	6°42	28°14	2°34	20°14	4°20	2°20	6°56	13°30	13°48	12°12	19°15	18°54	S 5
S 6	0 58 17	12°39'42	9♂9	8°29	29°12	3°11	20°24	4°20	2°19	6°58	13°29	13°R49	12° 9	19°22	18°52	S 6
M 7	1 2 13	13°38'48	21°35	10°17	0♂10	3°48	20°34	4°20	2°18	7° 0	13°28	13°49	12° 6	19°29	18°51	M 7
T 8	1 6 10	14°37'55	3♂51	12° 3	1° 7	4°25	20°44	4°20	2°16	7° 2	13°27	13°47	12° 3	19°36	18°49	T 8
W 9	1 10 6	15°37'04	15°59	13°49	2° 4	5° 2	20°54	4°D20	2°15	7° 5	13°26	13°44	12° 0	19°42	18°48	W 9
T 10	1 14 3	16°36'15	28° 0	15°34	3° 0	5°39	21° 4	4°20	2°13	7° 7	13°25	13°39	11°57	19°49	18°47	T 10
F 11	1 17 59	17°35'28	9♂56	17°19	3°56	6°16	21°14	4°20	2°12	7° 9	13°24	13°33	11°53	19°56	18°46	F 11
S 12	1 21 56	18°34'43	21°48	19° 2	4°52	6°53	21°24	4°20	2°10	7°11	13°23	13°27	11°50	20° 2	18°45	S 12
S 13	1 25 52	19°34'01	3♂39	20°45	5°46	7°30	21°34	4°20	2° 9	7°13	13°22	13°20	11°47	20° 9	18°44	S 13
M14	1 29 49	20°33'21	15°32	22°27	6°41	8° 7	21°43	4°21	2° 7	7°16	13°21	13°15	11°44	20°16	18°43	M14
T 15	1 33 46	21°32'43	27°29	24° 9	7°35	8°44	21°53	4°21	2° 5	7°18	13°20	13°10	11°41	20°22	18°42	T 15
W16	1 37 42	22°32'07	9♂35	25°50	8°28	9°20	22° 2	4°22	2° 3	7°20	13°19	13° 7	11°38	20°29	18°41	W16
T 17	1 41 39	23°31'34	21°54	27°30	9°20	9°57	22°11	4°23	2° 2	7°22	13°18	13°D 6	11°34	20°36	18°40	T 17
F 18	1 45 35	24°31'03	4♂30	29° 9	10°12	10°34	22°21	4°24	2° 0	7°24	13°17	13° 7	11°31	20°43	18°39	F 18
S 19	1 49 32	25°30'34	17°28	0♂48	11° 4	11°10	22°30	4°25	1°58	7°26	13°16	13° 8	11°28	20°49	18°39	S 19
S 20	1 53 28	26°30'08	0♂51	2°26	11°55	11°47	22°39	4°26	1°56	7°29	13°15	13°10	11°25	20°56	18°38	S 20
M21	1 57 25	27°29'44	14°43	4° 3	12°44	12°23	22°47	4°27	1°54	7°31	13°14	13°R10	11°22	21° 3	18°38	M21
T 22	2 1 21	28°29'21	29° 2	5°40	13°34	13° 0	22°56	4°28	1°52	7°33	13°13	13° 9	11°18	21° 9	18°37	T 22
W23	2 5 18	29°29'02	13♂47	7°16	14°22	13°36	23° 5	4°30	1°50	7°35	13°11	13° 6	11°15	21°16	18°37	W23
T 24	2 9 15	0♂28'44	28°50	8°52	15°10	14°13	23°13	4°31	1°48	7°37	13°10	13° 1	11°12	21°23	18°36	T 24
F 25	2 13 11	1°28'28	14♂4	10°27	15°57	14°49	23°21	4°33	1°46	7°39	13° 9	12°54	11° 9	21°30	18°36	F 25
S 26	2 17 8	2°28'14	29°17	12° 1	16°43	15°25	23°30	4°34	1°44	7°41	13° 8	12°46	11° 6	21°36	18°36	S 26
S 27	2 21 4	3°28'02	14♂18	13°35	17°28	16° 2	23°38	4°36	1°42	7°43	13° 7	12°38	11° 3	21°43	18°36	S 27
M28	2 25 1	4°27'52	29° 1	15° 9	18°12	16°38	23°46	4°38	1°40	7°45	13° 6	12°32	10°59	21°50	18°D36	M28
T 29	2 28 57	5°27'43	13♂18	16°41	18°55	17°14	23°53	4°40	1°38	7°47	13° 5	12°28	10°56	21°56	18°36	T 29
W30	2 32 54	6°27'37	27° 8	18°14	19°38	17°50	24° 1	4°42	1°36	7°49	13° 4	12°26	10°53	22° 3	18°36	W30
T 31	2 36 50	7♂27'31	10♂32	19♂46	20♂19	18♂26	24♂9	4♂44	1♂33	7♂51	13♂3	12°D25	10♂50	22♂10	18♂36	T 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	decl lat	decl lat
T 1	3s 4	18s26 4n57	1n53 1n49	21s59 3s16	12n38 1n17	15n30 0n35	19s48 0s41	20n26 0s12	1s26 1n22	0n17 16s19	6n24 6n54	12n52 8s41	6n46				
W 2	3 27	17 59 4 23	1 8 1 47	22 18 3 20	12 25 1 17	15 27 0 35	19 49 0 41	20 26 0 12	1 27 1 22	0 17 16 19	6 24 6 55	12 53 8 42	6 46				
T 3	3 51	16 31 3 36	0 22 1 44	22 37 3 25	12 12 1 18	15 24 0 35	19 49 0 41	20 26 0 12	1 27 1 22	0 17 16 19	6 23 6 56	12 55 8 42	6 45				
F 4	4 14	14 11 2 38	0s24 1 40	22 55 3 29	11 59 1 18	15 21 0 35	19 49 0 41	20 25 0 12	1 28 1 22	0 16 16 20	6 23 6 57	12 56 8 43	6 45				
S 5	4 37	11 12 1 34	1 11 1 37	23 13 3 33	11 46 1 18	15 17 0 35	19 49 0 41	20 25 0 12	1 29 1 22	0 16 16 20	6 22 6 59	12 58 8 44	6 44				
S 6	5 0	7 44 0 26	1 57 1 32	23 30 3 38	11 33 1 19	15 14 0 35	19 49 0 41	20 25 0 12	1 30 1 22	0 15 16 20	6 22 7 0	12 59 8 45	6 44				
M 7	5 23	3 59 0s42	2 43 1 28	23 47 3 42	11 20 1 19	15 11 0 36	19 49 0 41	20 25 0 12	1 31 1 23	0 15 16 20	6 22 7 1	13 1 8 46	6 44				
T 8	5 46	0 7 1 47	3 29 1 23	24 3 3 46	11 7 1 19	15 8 0 36	19 49 0 41	20 24 0 12	1 32 1 23	0 15 16 20	6 22 7 2	13 2 8 47	6 43				
W 9	6 9	3n43 2 47	4 15 1 18	24 19 3 50	10 53 1 20	15 5 0 36	19 49 0 41	20 24 0 12	1 33 1 23	0 14 16 20	6 24 7 3	13 4 8 47	6 43				
T 10	6 31	7 22 3 38	5 1 1 12	24 34 3 54	10 40 1 20	15 2 0 36	19 49 0 41	20 24 0 12	1 33 1 23	0 14 16 20	6 25 7 5	13 5 8 48	6 42				
F 11	6 54	10 41 4 19	5 46 1 7	24 49 3 58	10 27 1 20	14 59 0 36	19 49 0 41	20 23 0 12	1 34 1 23	0 13 16 21	6 28 7 6	13 6 8 49	6 42				
S 12	7 17	13 33 4 49	6 31 1 1	25 3 4 2	10 13 1 20	14 56 0 36	19 49 0 41	20 23 0 12	1 35 1 23	0 13 16 21	6 30 7 7	13 8 8 50	6 41				
S 13	7 39	15 51 5 6	7 15 0 55	25 17 4 6	10 0 1 21	14 53 0 37	19 49 0 41	20 23 0 12	1 36 1 23	0 13 16 21	6 33 7 8	13 9 8 50	6 41				
M14	8 1	17 30 5 10	7 59 0 49	25 30 4 9	9 47 1 21	14 50 0 37	19 49 0 41	20 22 0 12	1 37 1 23	0 12 16 21	6 35 7 9	13 11 8 51	6 40				
T 15	8 24	18 23 5 1	8 42 0 42	25 43 4 13	9 33 1 21	14 47 0 37	19 49 0 41	20 22 0 12	1 38 1 23	0 12 16 21	6 37 7 11	13 12 8 52	6 40				
W16	8 46	18 27 4 38	9 25 0 36	25 55 4 16	9 20 1 22	14 44 0 37	19 49 0 41	20 22 0 12	1 39 1 23	0 11 16 21	6 38 7 12	13 14 8 52	6 40				
T 17	9 8	17 39 4 2	10 7 0 29	26 6 4 19	9 6 1 22	14 42 0 37	19 49 0 41	20 21 0 12	1 39 1 23	0 11 16 21	6 38 7 13	13 15 8 53	6 39				
F 18	9 30	15 59 3 14	10 49 0 22	26 18 4 23	8 52 1 22	14 39 0 37	19 48 0 41	20 21 0 12	1 40 1 23	0 11 16 21	6 38 7 14	13 16 8 54	6 39				
S 19	9 51	13 27 2 15	11 30 0 16	26 28 4 26	8 39 1 23	14 36 0 38	19 48 0 41	20 21 0 12	1 41 1 23	0 10 16 21	6 37 7 16	13 18 8 54	6 38				
S 20	10 13	10 8 1 6	12 10 0 9	26 38 4 29	8 25 1 23	14 33 0 38	19 48 0 41	20 20 0 12	1 42 1 23	0 10 16 22	6 37 7 17	13 19 8 55	6 38				
M21	10 35	6 9 0n 8	12 50 0 2	26 48 4 31	8 11 1 23	14 31 0 38	19 48 0 41	20 20 0 12	1 43 1 23	0 10 16 22	6 37 7 18	13 21 8 56	6 37				
T 22	10 56	1 41 1 25	13 29 0s 5	26 56 4 34	7 58 1 24	14 28 0 38	19 47 0 41	20 20 0 12	1 43 1 23	0 9 16 22	6 37 7 19	13 22 8 56	6 37				
W23	11 17	3s 1 2 38	14 7 0 11	27 5 4 36	7 44 1 24	14 25 0 38	19 47 0 41	20 19 0 12	1 44 1 23	0 9 16 22	6 38 7 20	13 24 8 57	6 36				
T 24	11 38	7 36 3 41	14 44 0 18	27 13 4 39	7 30 1 24	14 23 0 39	19 47 0 41	20 19 0 12	1 45 1 23	0 8 16 22	6 40 7 22	13 25 8 57	6 36				
F 25	11 59	11 46 4 29	15 21 0 25	27 20 4 41	7 17 1 25	14 20 0 39	19 46 0 41	20 18 0 12	1 46 1 23	0 8 16 22	6 43 7 23	13 26 8 58	6 35				
S 26	12 19	15 7 4 58	15 56 0 32	27 27 4 43	7 3 1 25	14 18 0 39	19 46 0 41	20 18 0 12	1 47 1 23	0 8 16 22	6 46 7 24	13 28 8 58	6 35				
S 27	12 40	17 25 5 7	16 31 0 39	27 33 4 44	6 49 1 25	14 15 0 39	19 46 0 41	20 18 0 12	1 47 1 23	0 7 16 22	6 49 7 25	13 29 8 59	6 35				
M28	13 0	18 31 4 54	17 5 0 45	27 39 4 46	6 35 1 25	14 13 0 39	19 45 0 41	20 17 0 12	1 48 1 23	0 7 16 22	6 51 7 26	13 31 8 59	6 34				
T 29	13 20	18 23 4 24	17 38 0 52	27 44 4 47	6 21 1 26	14 10 0 40	19 45 0 41	20 17 0 12	1 49 1 23	0 7 16 22	6 53 7 28	13 32 9 0	6 34				
W30	13 40	17 8 3 39	18 11 0 58	27 49 4 49	6 8 1 26	14 8 0 40	19 44 0 41	20 16 0 12	1 50 1 23	0 6 16 22	6 54 7 29	13 33 9 0	6 33				
T 31	13s59	14s58 2n43	18s42 1s 5	27s53 4s50	5n54 1n26	14n 6 0n40	19s44 0s41	20n16 0s12	1s51 1n23	0n 6 16s22	6n54 7n30	13n35 9s 1	6n33				

Julian Day Number = 2491629.5, Delta T = 97.88 sec  
Ecliptic obliquity = 23°25'22", Nutation = - 0°00'06", out-of-bounds declination in red  
Ayanamsha: Fagan/Bradley = 26°16'25", Lahiri = 25°23'26"

ASTRODIENST EPHEMERIS for the year 2109  
geocentric

NOVEMBER 2109

00:00 UT

Day	Sid.t	☉	☽	♂	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
F 1	2 40 47	8♈27'27"	23♈33'	21♈17'	20♈59'	19♈2	24♈16'	4♈46'	1°R31	7♈53'	13°R 1	12♈26'	10♈47'	22♈17'	18♈36'	F 1
S 2	2 44 44	9°27'25"	6♈13'	22°48'	21°37'	19°38'	24°23'	4°49'	1♈29'	7°55'	13♈0	12°R27'	10°44'	22°23'	18°37'	S 2
S 3	2 48 40	10°27'25"	18°38'	24°18'	22°15'	20°14'	24°30'	4°51'	1°27'	7°57'	12°59'	12°27'	10°40'	22°30'	18°37'	S 3
M 4	2 52 37	11°27'26"	0♈51'	25°48'	22°51'	20°50'	24°37'	4°54'	1°24'	7°59'	12°58'	12°25'	10°37'	22°37'	18°37'	M 4
T 5	2 56 33	12°27'29"	12°55'	27°17'	23°27'	21°26'	24°44'	4°56'	1°22'	8°1'	12°57'	12°21'	10°34'	22°44'	18°38'	T 5
W 6	3 0 30	13°27'33"	24°54'	28°46'	24°0'	22°2'	24°51'	4°59'	1°20'	8°3'	12°56'	12°13'	10°31'	22°50'	18°38'	W 6
T 7	3 4 26	14°27'39"	6♈48'	0♈14'	24°32'	22°38'	24°57'	5°2'	1°17'	8°5'	12°55'	12°4'	10°28'	22°57'	18°39'	T 7
F 8	3 8 23	15°27'47"	18°41'	1°42'	25°3'	23°13'	25°4'	5°5'	1°15'	8°7'	12°54'	11°52'	10°24'	23°4'	18°40'	F 8
S 9	3 12 19	16°27'57"	0♈33'	3°9'	25°33'	23°49'	25°10'	5°8'	1°12'	8°9'	12°52'	11°39'	10°21'	23°10'	18°40'	S 9
S 10	3 16 16	17°28'09"	12°26'	4°36'	26°0'	24°25'	25°16'	5°11'	1°10'	8°10'	12°51'	11°27'	10°18'	23°17'	18°41'	S 10
M 11	3 20 12	18°28'23"	24°21'	6°2'	26°26'	25°0'	25°22'	5°14'	1°8'	8°12'	12°50'	11°15'	10°15'	23°24'	18°42'	M 11
T 12	3 24 9	19°28'38"	6♈21'	7°27'	26°51'	25°36'	25°28'	5°17'	1°5'	8°14'	12°49'	11°5'	10°12'	23°31'	18°43'	T 12
W 13	3 28 6	20°28'56"	18°29'	8°52'	27°13'	26°11'	25°33'	5°21'	1°3'	8°16'	12°48'	10°58'	10°9'	23°37'	18°44'	W 13
T 14	3 32 2	21°29'15"	0♈46'	10°16'	27°34'	26°47'	25°39'	5°24'	1°0'	8°18'	12°47'	10°53'	10°5'	23°44'	18°45'	T 14
F 15	3 35 59	22°29'36"	13°19'	11°39'	27°53'	27°22'	25°44'	5°28'	0°58'	8°19'	12°46'	10°51'	10°2'	23°51'	18°46'	F 15
S 16	3 39 55	23°29'59"	26°10'	13°2'	28°9'	27°57'	25°49'	5°31'	0°55'	8°21'	12°45'	10°D51'	9°59'	23°57'	18°47'	S 16
S 17	3 43 52	24°30'24"	9♈24'	14°23'	28°24'	28°33'	25°54'	5°35'	0°53'	8°23'	12°44'	10°R51'	9°56'	24°4'	18°49'	S 17
M 18	3 47 48	25°30'51"	23°5'	15°43'	28°37'	29°8'	25°59'	5°39'	0°50'	8°24'	12°42'	10°51'	9°53'	24°11'	18°50'	M 18
T 19	3 51 45	26°31'20"	7♈15'	17°2'	28°48'	29°43'	26°3'	5°43'	0°48'	8°26'	12°41'	10°49'	9°49'	24°18'	18°51'	T 19
W 20	3 55 41	27°31'51"	21°52'	18°19'	28°56'	0♈18'	26°8'	5°47'	0°45'	8°28'	12°40'	10°44'	9°46'	24°24'	18°53'	W 20
T 21	3 59 38	28°32'23"	6♈53'	19°35'	29°2'	0°53'	26°12'	5°51'	0°43'	8°29'	12°39'	10°36'	9°43'	24°31'	18°54'	T 21
F 22	4 3 35	29°32'57"	22°10'	20°50'	29°6'	1°28'	26°16'	5°55'	0°40'	8°31'	12°38'	10°26'	9°40'	24°38'	18°56'	F 22
S 23	4 7 31	0♈33'33"	7♈31'	22°2'	29°R 8'	2°3'	26°20'	5°59'	0°38'	8°32'	12°37'	10°14'	9°37'	24°44'	18°57'	S 23
S 24	4 11 28	1°34'10"	22°45'	23°12'	29°7'	2°38'	26°24'	6°3'	0°35'	8°34'	12°36'	10°3'	9°34'	24°51'	18°59'	S 24
M 25	4 15 24	2°34'49"	7♈42'	24°19'	29°3'	3°13'	26°27'	6°8'	0°33'	8°35'	12°35'	9°53'	9°30'	24°58'	19°1'	M 25
T 26	4 19 21	3°35'29"	22°13'	25°23'	28°58'	3°47'	26°31'	6°12'	0°30'	8°37'	12°34'	9°46'	9°27'	25°5'	19°3'	T 26
W 27	4 23 17	4°36'09"	6♈14'	26°24'	28°49'	4°22'	26°34'	6°17'	0°28'	8°38'	12°33'	9°41'	9°24'	25°11'	19°5'	W 27
T 28	4 27 14	5°36'51"	19°45'	27°21'	28°39'	4°57'	26°37'	6°21'	0°25'	8°40'	12°32'	9°38'	9°21'	25°18'	19°6'	T 28
F 29	4 31 11	6°37'34"	2♈48'	28°14'	28°25'	5°31'	26°40'	6°26'	0°23'	8°41'	12°31'	9°38'	9°18'	25°25'	19°8'	F 29
S 30	4 35 7	7♈38'18"	15♈28'	29♈2'	28♈10'	6♈6'	26♈42'	6♈31'	0♈20'	8♈42'	12♈30'	9♈38'	9♈15'	25♈31'	19♈11'	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
F 1	14s19	12s 6	1n40	19s13	1s11	27s57	4s50	5n40	1n27	14n 3	0n40	19s43	0s41	20n15	0s12	1s51	1n23	0n 6	16s22	6n53	7n31	13n36	9s 1	6n32	
S 2	14 38	8 42	0 33	19 42	1 17	28 0	4 51	5 26	1 27	14 1	0 40	19 43	0 41	20 15	0 12	1 52	1 23	0 5	16 22	6 53	7 32	13 38	9 1	6 32	
S 3	14 57	5 0	0s33	20 11	1 23	28 2	4 51	5 12	1 27	13 59	0 41	19 42	0 41	20 14	0 12	1 53	1 23	0 5	16 22	6 53	7 34	13 39	9 2	6 31	
M 4	15 16	1 9	1 37	20 38	1 29	28 5	4 51	4 58	1 28	13 57	0 41	19 41	0 41	20 14	0 12	1 54	1 23	0 5	16 22	6 54	7 35	13 40	9 2	6 31	
T 5	15 34	2n43	2 35	21 5	1 35	28 6	4 51	4 44	1 28	13 55	0 41	19 41	0 41	20 14	0 12	1 54	1 23	0 4	16 22	6 56	7 36	13 42	9 2	6 30	
W 6	15 52	6 26	3 26	21 30	1 41	28 7	4 50	4 31	1 28	13 53	0 41	19 40	0 41	20 13	0 12	1 55	1 23	0 4	16 22	6 58	7 37	13 43	9 3	6 30	
T 7	16 10	9 52	4 8	21 55	1 46	28 8	4 50	4 17	1 28	13 51	0 41	19 39	0 41	20 13	0 12	1 56	1 23	0 4	16 22	7 2	7 38	13 45	9 3	6 29	
F 8	16 28	12 55	4 38	22 18	1 51	28 8	4 48	4 3	1 29	13 49	0 42	19 39	0 41	20 12	0 12	1 56	1 23	0 4	16 22	7 6	7 40	13 46	9 3	6 29	
S 9	16 45	15 25	4 56	22 41	1 56	28 8	4 47	3 49	1 29	13 47	0 42	19 38	0 41	20 12	0 12	1 57	1 23	0 3	16 22	7 11	7 41	13 47	9 3	6 28	
S 10	17 2	17 17	5 2	23 2	2 1	28 7	4 45	3 35	1 29	13 45	0 42	19 37	0 41	20 11	0 12	1 58	1 23	0 3	16 22	7 16	7 42	13 49	9 3	6 28	
M11	17 19	18 24	4 54	23 22	2 6	28 5	4 43	3 21	1 30	13 43	0 42	19 37	0 41	20 11	0 12	1 58	1 23	0 3	16 22	7 20	7 43	13 50	9 4	6 27	
T 12	17 35	18 43	4 34	23 41	2 10	28 3	4 40	3 7	1 30	13 42	0 42	19 36	0 41	20 10	0 12	1 59	1 23	0 3	16 22	7 24	7 44	13 52	9 4	6 27	
W13	17 51	18 11	4 0	23 58	2 14	28 1	4 38	2 54	1 30	13 40	0 43	19 35	0 41	20 10	0 12	2 0	1 23	0 2	16 22	7 27	7 46	13 53	9 4	6 27	
T 14	18 7	16 47	3 16	24 15	2 18	27 58	4 34	2 40	1 30	13 38	0 43	19 34	0 41	20 9	0 12	2 0	1 23	0 2	16 22	7 29	7 47	13 54	9 4	6 26	
F 15	18 23	14 34	2 21	24 30	2 21	27 55	4 31	2 26	1 31	13 37	0 43	19 33	0 41	20 9	0 12	2 1	1 24	0 2	16 22	7 29	7 48	13 56	9 4	6 26	
S 16	18 38	11 35	1 17	24 44	2 24	27 51	4 27	2 12	1 31	13 35	0 43	19 32	0 41	20 8	0 12	2 2	1 24	0 2	16 21	7 30	7 49	13 57	9 4	6 25	
S 17	18 53	7 55	0 8	24 57	2 27	27 47	4 22	1 58	1 31	13 34	0 44	19 31	0 41	20 8	0 12	2 2	1 24	0 1	16 21	7 29	7 50	13 58	9 4	6 25	
M18	19 8	3 44	1n 4	25 8	2 29	27 42	4 17	1 45	1 31	13 32	0 44	19 31	0 41	20 7	0 12	2 3	1 24	0 1	16 21	7 30	7 52	14 0	9 4	6 24	
T 19	19 22	0s49	2 15	25 18	2 31	27 37	4 12	1 31	1 32	13 31	0 44	19 30	0 41	20 7	0 12	2 4	1 24	0 1	16 21	7 30	7 53	14 1	9 4	6 24	
W20	19 36	5 26	3 19	25 27	2 33	27 31	4 6	1 17	1 32	13 30	0 44	19 29	0 41	20 6	0 12	2 4	1 24	0 1	16 21	7 32	7 54	14 3	9 4	6 23	
T 21	19 49	9 51	4 11	25 34	2 33	27 24	3 59	1 4	1 32	13 28	0 44	19 28	0 41	20 6	0 12	2 5	1 24	0 0	16 21	7 35	7 55	14 4	9 4	6 23	
F 22	20 2	13 42	4 46	25 40	2 34	27 17	3 52	0 50	1 33	13 27	0 45	19 27	0 41	20 5	0 12	2 5	1 24	0 0	16 21	7 39	7 56	14 5	9 4	6 22	
S 23	20 15	16 37	5 0	25 44	2 34	27 10	3 45	0 36	1 33	13 26	0 45	19 26	0 41	20 5	0 12	2 6	1 24	0 0	16 21	7 43	7 58	14 7	9 4	6 22	
S 24	20 28	18 21	4 53	25 47	2 33	27 2	3 37	0 23	1 33	13 25	0 45	19 25	0 41	20 4	0 12	2 6	1 24	0s 0	16 21	7 48	7 59	14 8	9 4	6 22	
M25	20 40	18 46	4 26	25 49	2 31	26 54	3 28	0 9	1 33	13 24	0 45	19 23	0 41	20 4	0 12	2 7	1 24	0 0	16 20	7 51	8 0	14 9	9 4	6 21	
T 26	20 51	17 56	3 43	25 49	2 29	26 44	3 19	0s 4	1 34	13 23	0 46	19 22	0 41	20 3	0 12	2 8	1 24	0 0	16 20	7 54	8 1	14 11	9 4	6 21	
W27	21 3	16 1	2 47	25 48	2 26	26 35	3 10	0 18	1 34	13 22	0 46	19 21	0 41	20 3	0 12	2 8	1 24	0 1	16 20	7 56	8 2	14 12	9 4	6 20	
T 28	21 14	13 15	1 43	25 45	2 22	26 25	3 0	0 31	1 34	13 21	0 46	19 20	0 41	20 2	0 12	2 9	1 24	0 1	16 20	7 57	8 4	14 13	9 4	6 20	
F 29	21 24	9 54	0 36	25 41	2 17	26 14	2 49	0 45	1 34	13 21	0 46	19 19	0 41	20 2	0 12	2 9	1 24	0 1	16 20	7 57	8 5	14 15	9 3	6 19	
S 30	21s34	6s12	0s31	25s36	2s11	26s 2	2s38	0s58	1n35	13n20	0n47	19s18	0s41	20n 1	0s12	2s10	1n24	0s 1	16s20	7n57	8n 6	14n16	9s 3	6n19	

# ASTRODIENST EPHEMERIS for the year 2109

## geocentric

DECEMBER 2109

00:00 UT

Day	Sid.t	☉	☽	♂	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
S 1	4 39 4	8°39'03	27°49	29°44	27°R52	6°40	26°45	6°35	0°R18	8°44	12°R29	9°R37	9°11	25°38	19°13	S 1
M 2	4 43 0	9°39'49	9°57	0°20	27°31	7°14	26°47	6°40	0°15	8°45	12°28	9°34	9° 8	25°45	19°15	M 2
T 3	4 46 57	10°40'36	21°55	0°48	27° 9	7°49	26°49	6°45	0°13	8°46	12°27	9°29	9° 5	25°52	19°17	T 3
W 4	4 50 53	11°41'24	3°48	1° 9	26°44	8°23	26°51	6°50	0°10	8°48	12°26	9°21	9° 2	25°58	19°19	W 4
T 5	4 54 50	12°42'12	15°39	1°21	26°17	8°57	26°53	6°55	0° 8	8°49	12°25	9°10	8°59	26° 5	19°22	T 5
F 6	4 58 46	13°43'02	27°31	1°R23	25°49	9°31	26°54	7° 0	0° 5	8°50	12°24	8°56	8°55	26°12	19°24	F 6
S 7	5 2 43	14°43'53	9°25	1°15	25°18	10° 5	26°56	7° 6	0° 3	8°51	12°23	8°41	8°52	26°18	19°27	S 7
S 8	5 6 39	15°44'45	21°23	0°56	24°46	10°39	26°57	7°11	0° 1	8°52	12°22	8°26	8°49	26°25	19°29	S 8
M 9	5 10 36	16°45'38	3°25	0°26	24°13	11°13	26°58	7°16	29°58	8°53	12°21	8°13	8°46	26°32	19°32	M 9
T 10	5 14 33	17°46'33	15°34	29°44	23°38	11°46	26°58	7°22	29°56	8°54	12°20	8° 1	8°43	26°39	19°34	T 10
W11	5 18 29	18°47'28	27°50	28°52	23° 3	12°20	26°59	7°27	29°54	8°55	12°19	7°52	8°40	26°45	19°37	W11
T 12	5 22 26	19°48'24	10°15	27°50	22°27	12°54	26°59	7°33	29°51	8°56	12°19	7°46	8°36	26°52	19°40	T 12
F 13	5 26 22	20°49'22	22°51	26°39	21°51	13°27	26°R59	7°38	29°49	8°57	12°18	7°44	8°33	26°59	19°42	F 13
S 14	5 30 19	21°50'20	5°43	25°21	21°14	14° 1	26°59	7°44	29°47	8°58	12°17	7°D43	8°30	27° 6	19°45	S 14
S 15	5 34 15	22°51'20	18°53	23°59	20°38	14°34	26°59	7°50	29°44	8°59	12°16	7°R43	8°27	27°12	19°48	S 15
M16	5 38 12	23°52'20	2°25	22°36	20° 2	15° 7	26°59	7°56	29°42	9° 0	12°15	7°43	8°24	27°19	19°51	M16
T 17	5 42 9	24°53'22	16°22	21°15	19°26	15°40	26°58	8° 1	29°40	9° 1	12°14	7°41	8°21	27°26	19°54	T 17
W18	5 46 5	25°54'25	0°42	19°57	18°52	16°13	26°57	8° 7	29°38	9° 2	12°14	7°37	8°17	27°32	19°57	W18
T 19	5 50 2	26°55'29	15°26	18°46	18°18	16°46	26°56	8°13	29°36	9° 3	12°13	7°30	8°14	27°39	20° 0	T 19
F 20	5 53 58	27°56'34	0°26	17°43	17°46	17°19	26°55	8°19	29°33	9° 3	12°12	7°21	8°11	27°46	20° 3	F 20
S 21	5 57 55	28°57'39	15°36	16°51	17°15	17°52	26°53	8°25	29°31	9° 4	12°11	7°10	8° 8	27°53	20° 6	S 21
S 22	6 1 51	29°58'45	0°34	16° 8	16°46	18°25	26°52	8°31	29°29	9° 5	12°11	7° 0	8° 5	27°59	20°10	S 22
M23	6 5 48	0°59'52	15°40	15°37	16°19	18°57	26°50	8°38	29°27	9° 5	12°10	6°50	8° 1	28° 6	20°13	M23
T 24	6 9 44	2° 1'00	0°15	15°16	15°54	19°30	26°48	8°44	29°25	9° 6	12° 9	6°43	7°58	28°13	20°16	T 24
W25	6 13 41	3° 2'07	14°23	15° 6	15°31	20° 2	26°46	8°50	29°23	9° 7	12° 9	6°38	7°55	28°19	20°19	W25
T 26	6 17 38	4° 3'15	28° 3	15°D 6	15°10	20°35	26°43	8°56	29°21	9° 7	12° 8	6°36	7°52	28°26	20°23	T 26
F 27	6 21 34	5° 4'22	11°13	15°16	14°52	21° 7	26°41	9° 3	29°19	9° 8	12° 7	6°D36	7°49	28°33	20°26	F 27
S 28	6 25 31	6° 5'30	23°59	15°33	14°36	21°39	26°38	9° 9	29°18	9° 8	12° 7	6°36	7°46	28°40	20°30	S 28
S 29	6 29 27	7° 6'38	6°Y24	15°59	14°22	22°11	26°35	9°16	29°16	9° 9	12° 6	6°R37	7°42	28°46	20°33	S 29
M30	6 33 24	8° 7'46	18°32	16°31	14°11	22°43	26°32	9°22	29°14	9° 9	12° 6	6°36	7°39	28°53	20°37	M30
T 31	6 37 20	9° 8'54	0°30	17°10	14°21	23°15	26°28	9°29	29°12	9° 9	12° 5	6°13	7°13	29°0	20°40	T 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
S 1	21s44	2s19	1s35	25s29	2s 4	25s50	2s26	1s11	1n35	13n19	0n47	19s17	0s41	20n 1	0s12	2s10	1n24	0s 1	16s20	7n57	8n 7	14n18	9s 3	6n19	
M 2	21 53	1n36	2 33	25 21	1 55	25 38	2 14	1 25	1 35	13 19	0 47	19 15	0 41	20 0	0 12	2 11	1 24	0 1	16 19	7 58	8 8	14 19	9 3	6 18	
T 3	22 2	5 23	3 23	25 11	1 46	25 24	2 1	1 38	1 35	13 18	0 47	19 14	0 41	19 59	0 12	2 11	1 24	0 1	16 19	8 0	8 10	14 20	9 2	6 18	
W 4	22 10	8 56	4 5	25 0	1 35	25 10	1 48	1 51	1 36	13 18	0 48	19 13	0 41	19 59	0 12	2 11	1 24	0 1	16 19	8 4	8 11	14 22	9 2	6 17	
T 5	22 18	12 7	4 35	24 48	1 23	24 56	1 34	2 4	1 36	13 18	0 48	19 12	0 41	19 58	0 12	2 12	1 24	0 1	16 19	8 8	8 12	14 23	9 2	6 17	
F 6	22 26	14 49	4 54	24 34	1 9	24 41	1 20	2 18	1 36	13 17	0 48	19 10	0 41	19 58	0 12	2 12	1 24	0 2	16 19	8 13	8 13	14 24	9 1	6 16	
S 7	22 33	16 55	4 59	24 19	0 54	24 25	1 5	2 31	1 36	13 17	0 48	19 9	0 41	19 57	0 12	2 13	1 25	0 2	16 18	8 18	8 14	14 26	9 1	6 16	
S 8	22 40	18 17	4 52	24 3	0 38	24 9	0 50	2 44	1 37	13 17	0 49	19 8	0 41	19 57	0 12	2 13	1 25	0 2	16 18	8 24	8 15	14 27	9 1	6 16	
M 9	22 46	18 51	4 31	23 45	0 20	23 53	0 35	2 57	1 37	13 17	0 49	19 6	0 41	19 57	0 12	2 13	1 25	0 2	16 18	8 29	8 17	14 28	9 0	6 15	
T 10	22 52	18 34	3 58	23 27	0 1	23 36	0 20	3 10	1 37	13 17	0 49	19 5	0 41	19 56	0 12	2 14	1 25	0 2	16 18	8 33	8 18	14 30	9 0	6 15	
W11	22 57	17 25	3 14	23 7	0n18	23 19	0 4	3 23	1 37	13 17	0 49	19 4	0 41	19 56	0 12	2 14	1 25	0 2	16 18	8 37	8 19	14 31	8 59	6 14	
T 12	23 2	15 25	2 20	22 46	0 39	23 1	0n11	3 35	1 38	13 17	0 50	19 2	0 41	19 55	0 12	2 15	1 25	0 2	16 17	8 39	8 20	14 32	8 59	6 14	
F 13	23 6	12 40	1 18	22 24	0 59	22 43	0 27	3 48	1 38	13 17	0 50	19 1	0 41	19 55	0 12	2 15	1 25	0 2	16 17	8 40	8 21	14 34	8 59	6 14	
S 14	23 10	9 15	0 11	22 2	1 19	22 25	0 43	4 1	1 38	13 17	0 50	18 59	0 41	19 54	0 11	2 15	1 25	0 2	16 17	8 40	8 23	14 35	8 58	6 13	
S 15	23 14	5 18	0n59	21 40	1 38	22 8	0 58	4 14	1 38	13 18	0 50	18 58	0 41	19 54	0 11	2 16	1 25	0 2	16 17	8 40	8 24	14 36	8 57	6 13	
M16	23 17	0 59	2 7	21 18	1 55	21 50	1 13	4 26	1 39	13 18	0 51	18 57	0 42	19 53	0 11	2 16	1 25	0 2	16 16	8 40	8 25	14 38	8 57	6 13	
T 17	23 19	3s31	3 10	20 57	2 11	21 32	1 29	4 39	1 39	13 19	0 51	18 55	0 42	19 53	0 11	2 16	1 25	0 2	16 16	8 41	8 26	14 39	8 56	6 12	
W18	23 22	7 56	4 2	20 38	2 25	21 14	1 43	4 51	1 39	13 19	0 51	18 54	0 42	19 52	0 11	2 16	1 25	0 2	16 16	8 42	8 27	14 40	8 56	6 12	
T 19	23 23	11 59	4 40	20 21	2 36	20 57	1 58	5 4	1 39	13 20	0 51	18 52	0 42	19 52	0 11	2 17	1 25	0 2	16 16	8 45	8 29	14 41	8 55	6 11	
F 20	23 24	15 20	5 0	20 7	2 45	20 40	2 12	5 16	1 39	13 20	0 52	18 50	0 42	19 51	0 11	2 17	1 25	0 2	16 15	8 48	8 30	14 43	8 55	6 11	
S 21	23 25	17 41	4 59	19 55	2 52	20 24	2 26	5 28	1 40	13 21	0 52	18 49	0 42	19 51	0 11	2 17	1 25	0 2	16 15	8 52	8 31	14 44	8 54	6 11	
S 22	23 25	18 48	4 37	19 47	2 56	20 8	2 39	5 40	1 40	13 22	0 52	18 47	0 42	19 50	0 11	2 17	1 25	0 2	16 15	8 56	8 32	14 45	8 53	6 10	
M23	23 25	18 36	3 56	19 41	2 59	19 52	2 52	5 52	1 40	13 23	0 52	18 46	0 42	19 50	0 11	2 18	1 25	0 2	16 15	9 0	8 33	14 47	8 53	6 10	
T 24	23 24	17 8	3 1	19 39	2 59	19 38	3 4	6 5	1 40	13 24	0 52	18 44	0 42	19 50	0 11	2 18	1 25	0 2	16 14	9 3	8 34	14 48	8 52	6 10	
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F 27	23 20	7 44	0s25	19 46	2 51	18 58	3 37	6 40	1 41	13 27	0 53	18 39	0 42	19 48	0 11	2 18	1 26	0 1	16 13	9 5	8 38	14 52	8 50	6 9	
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S 29	23 14	0n12	2 32	20 2	2 40	18 36	3 56	7 4	1 41	13 29	0 54	18 36	0 42	19 48	0 11	2 18	1 26	0 1	16 13	9 5	8 40	14 55	8 48	6 8	
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T 31	23s 6	7n47	4s 7	20s22	2n26	18s17	4n13	7s27	1n42	13n32	0n54	18s33	0s42	19n47	0s11	2s19	1n26	0s 1	16s12	9n 6	8n43	14n57	8s46	6n19	