

# SAULĖS IR MĖNULIO PUSIAUJINĖS KOORDINATĖS 2015 METAIS

ALGIRDAS KAZLAUSKAS

Lentelės antrajame stulpelyje pateikiamos Julijaus dienos, skaičiuojamos nuo 4713 metų pr. Kr. sausio 1 d. vidurdienio. Pvz., 2016 m. sausio 1 d. 0 val. pasauliniu arba 2 val. Lietuvos laiku yra 2 457 388.5 Julijaus dienos. Pusinis dienų skaičius gaunamas todėl, kad Julijaus dienos pradžia laikomas vidurdienis, o kalendorinės paros – vidurnaktis.

3–6 stulpeliuose pateikiamos Saulės ir Mėnulio koordinatės – rektascensija  $\alpha$  ir deklinacija  $\delta$  0 val. pasauliniu laiku. Žinant pasaulinį laiką, vietinis vidutinis Saulės laikas apskaičiuojamas pagal formulę:

$$t = T_0 + \lambda^h,$$

kurioje  $T_0$  – pasaulinis laikas,  $\lambda^h$  – vietos geografinė ilguma, išreikšta valandomis. Pavyzdžiui, Grinvičo vidurnaktį (0 val. pasauliniu laiku) Vilniuje atitinka 1 val. 41 min., Kaune – 1 val. 34 min. ir t.t. Juostinis laikas, kurį rodo mūsų laikrodžiai, apskaičiuojamas pagal formulę:

$$T = t + N - \lambda^h,$$

kurioje  $t$  – vietinis vidutinis Saulės laikas,  $N$  – laiko juostos numeris (2),  $\lambda^h$  – vietos geografinė ilguma. Įvedus vasaros laiką, pridedama dar viena valanda.

7–ame stulpelyje pateikiamas žvaigždinis laikas Grinvičo vidurnaktį (0 val. pasauliniu laiku). Vietinis žvaigždinis laikas apskaičiuojamas pagal formulę

$$S = S_0 + t + 9^s.86(t - \lambda^h),$$

kurioje  $S_0$  – žvaigždžinis laikas, pateiktas lentelėje,  $t$  – vietinis vidutinis Saulės laikas,  $\lambda^h$  – vietos geografinė ilguma. Pataisa  $9^s.86(t - \lambda^h)$  gaunama laiko sekundėmis.

8–ame stulpelyje pateikiama laiko pataisa  $\eta$ , reikalinga apskaičiuojant tikrąjį Saulės laiką iš vidutinio Saulės laiko pagal formulę:

$$t_{S.L.} = t_{vid.S.L.} - \eta$$

## SAULĒS IR MĒNULIO PUSIAUJINĒS KOORDINATĒS

Žvaigždinis laiks ( $S_0$ ) 0 val. pasauliniu laiku

### Sausis

Mēn. diena	Julijaus diena	Saulē		Mēnulis		$S_0$ h m s	$\eta$ m s
		$\alpha$ h m	$\delta$ ° ′	$\alpha$ h m	$\delta$ ° ′		
	245....						
1	7388.5	18 43.4	-23 04	11 48.1	+01 28	6 40 22	+03 04
2	7389.5	18 47.8	-22 59	12 33.2	-02 17	6 44 18	+03 33
3	7390.5	18 52.3	-22 53	13 18.4	-05 55	6 48 15	+04 01
4	7391.5	18 56.7	-22 48	14 04.3	-09 20	6 52 12	+04 28
5	7392.5	19 01.1	-22 42	14 51.6	-12 25	6 56 08	+04 56
6	7393.5	19 05.5	-22 35	15 40.7	-15 01	7 00 05	+05 23
7	7394.5	19 09.8	-22 28	16 32.0	-16 59	7 04 01	+05 49
8	7395.5	19 14.2	-22 20	17 25.4	-18 09	7 07 58	+06 15
9	7396.5	19 18.6	-22 12	18 20.6	-18 23	7 11 54	+06 41
10	7397.5	19 22.9	-22 04	19 16.9	-17 37	7 15 51	+07 06
11	7398.5	19 27.3	-21 55	20 13.6	-15 49	7 19 47	+07 31
12	7399.5	19 31.6	-21 46	21 10.0	-13 04	7 23 44	+07 55
13	7400.5	19 36.0	-21 36	22 05.7	-09 33	7 27 41	+08 18
14	7401.5	19 40.3	-21 26	23 00.4	-05 28	7 31 37	+08 41
15	7402.5	19 44.6	-21 16	23 54.6	-01 04	7 35 34	+09 03
16	7403.5	19 48.9	-21 05	0 48.5	+03 24	7 39 30	+09 24
17	7404.5	19 53.2	-20 53	1 42.7	+07 39	7 43 27	+09 45
18	7405.5	19 57.5	-20 42	2 37.7	+11 27	7 47 23	+10 05
19	7406.5	20 01.7	-20 30	3 33.6	+14 35	7 51 20	+10 24
20	7407.5	20 06.0	-20 17	4 30.5	+16 51	7 55 16	+10 43
21	7408.5	20 10.2	-20 04	5 27.8	+18 07	7 59 13	+11 01
22	7409.5	20 14.5	-19 51	6 25.0	+18 20	8 03 10	+11 18
23	7410.5	20 18.7	-19 37	7 21.1	+17 30	8 07 06	+11 34
24	7411.5	20 22.9	-19 23	8 15.5	+15 45	8 11 03	+11 49
25	7412.5	20 27.1	-19 09	9 07.8	+13 14	8 14 59	+12 04
26	7413.5	20 31.2	-18 54	9 57.8	+10 09	8 18 56	+12 18
27	7414.5	20 35.4	-18 39	10 45.9	+06 40	8 22 52	+12 31
28	7415.5	20 39.5	-18 24	11 32.5	+02 58	8 26 49	+12 43
29	7416.5	20 43.7	-18 08	12 18.1	-00 47	8 30 45	+12 55
30	7417.5	20 47.8	-17 52	13 03.3	-04 28	8 34 42	+13 06
31	7418.5	20 51.9	-17 36	13 48.8	-07 58	8 38 39	+13 16

## SAULĒS IR MĒNULIO PUSIAUJINĒS KOORDINATĒS

Žvaigždinis laiks ( $S_0$ ) 0 val. pasauliniu laiku

**Vasaris**

MĒn. diena	Julijaus diena	Saulē		Mēnulis		$S_0$ h m s	$\eta$ m s
		$\alpha$ h m	$\delta$ ° ′	$\alpha$ h m	$\delta$ ° ′		
	245....						
1	7419.5	20 56.0	-17 19	14 35.1	-11 10	8 42 35	+13 25
2	7420.5	21 00.1	-17 02	15 22.9	-13 56	8 46 32	+13 33
3	7421.5	21 04.1	-16 45	16 12.6	-16 08	8 50 28	+13 41
4	7422.5	21 08.2	-16 27	17 04.4	-17 38	8 54 25	+13 47
5	7423.5	21 12.2	-16 09	17 58.3	-18 17	8 58 21	+13 53
6	7424.5	21 16.3	-15 51	18 53.9	-17 58	9 02 18	+13 59
7	7425.5	21 20.3	-15 33	19 50.8	-16 38	9 06 14	+14 03
8	7426.5	21 24.3	-15 14	20 48.1	-14 16	9 10 11	+14 07
9	7427.5	21 28.3	-14 55	21 45.3	-10 59	9 14 08	+14 09
10	7428.5	21 32.3	-14 36	22 42.0	-07 00	9 18 04	+14 11
11	7429.5	21 36.2	-14 17	23 38.1	-02 34	9 22 01	+14 12
12	7430.5	21 40.2	-13 57	0 33.8	+02 01	9 25 57	+14 13
13	7431.5	21 44.1	-13 37	1 29.3	+06 26	9 29 54	+14 13
14	7432.5	21 48.0	-13 17	2 25.1	+10 26	9 33 50	+14 11
15	7433.5	21 51.9	-12 57	3 21.2	+13 46	9 37 47	+14 10
16	7434.5	21 55.8	-12 36	4 17.7	+16 15	9 41 43	+14 07
17	7435.5	21 59.7	-12 15	5 14.4	+17 46	9 45 40	+14 03
18	7436.5	22 03.6	-11 54	6 10.7	+18 15	9 49 37	+13 59
19	7437.5	22 07.5	-11 33	7 06.1	+17 44	9 53 33	+13 54
20	7438.5	22 11.3	-11 12	8 00.0	+16 17	9 57 30	+13 49
21	7439.5	22 15.1	-10 50	8 52.1	+14 03	10 01 26	+13 43
22	7440.5	22 19.0	-10 29	9 42.3	+11 11	10 05 23	+13 36
23	7441.5	22 22.8	-10 07	10 30.7	+07 51	10 09 19	+13 28
24	7442.5	22 26.6	-09 45	11 17.7	+04 14	10 13 16	+13 20
25	7443.5	22 30.4	-09 23	12 3.7	+00 30	10 17 12	+13 12
26	7444.5	22 34.2	-09 01	12 49.1	-03 13	10 21 09	+13 02
27	7445.5	22 38.0	-08 38	13 34.5	-06 47	10 25 05	+12 52
28	7446.5	22 41.7	-08 16	14 20.4	-10 05	10 29 02	+12 42
29	7447.5	22 45.5	-07 53	15 07.3	-12 58	10 32 59	+12 31

## SAULĒS IR MĒNULIO PUSIAUJINĒS KOORDINATĒS

Žvaigždinis laiks ( $S_0$ ) 0 val. pasauliniu laiku

### Kovas

MĒn. diena	Julijaus diena	Saulē		Mēnulis		$S_0$ h m s	$\eta$ m s
		$\alpha$ h m	$\delta$ ° ′	$\alpha$ h m	$\delta$ ° ′		
245....							
1	7448.5	22 49.2	-07 30	15 55.7	-15 21	10 36 55	+12 19
2	7449.5	22 53.0	-07 07	16 45.8	-17 05	10 40 52	+12 8
3	7450.5	22 56.7	-06 44	17 37.7	-18 03	10 44 48	+11 55
4	7451.5	23 00.5	-06 21	18 31.5	-18 08	10 48 45	+11 42
5	7452.5	23 04.2	-05 58	19 26.7	-17 15	10 52 41	+11 29
6	7453.5	23 07.9	-05 35	20 23.0	-15 22	10 56 38	+11 15
7	7454.5	23 11.6	-05 12	21 19.9	-12 31	11 00 34	+11 01
8	7455.5	23 15.3	-04 48	22 17.1	-08 49	11 04 31	+10 47
9	7456.5	23 19.0	-04 25	23 14.3	-04 30	11 08 28	+10 32
10	7457.5	23 22.7	-04 01	0 11.5	+00 09	11 12 24	+10 17
11	7458.5	23 26.4	-03 38	1 08.9	+04 48	11 16 21	+10 01
12	7459.5	23 30.0	-03 14	2 06.6	+09 07	11 20 17	+09 45
13	7460.5	23 33.7	-02 50	3 04.5	+12 48	11 24 14	+09 29
14	7461.5	23 37.4	-02 27	4 02.7	+15 37	11 28 10	+09 13
15	7462.5	23 41.0	-02 03	5 00.6	+17 26	11 32 07	+08 56
16	7463.5	23 44.7	-01 39	5 57.7	+18 11	11 36 03	+08 39
17	7464.5	23 48.4	-01 16	6 53.6	+17 54	11 40 00	+08 22
18	7465.5	23 52.0	-00 52	7 47.6	+16 40	11 43 57	+08 05
19	7466.5	23 55.7	-00 28	8 39.7	+14 37	11 47 53	+07 47
20	7467.5	23 59.3	-00 04	9 29.8	+11 56	11 51 50	+07 29
21	7468.5	0 03.0	+00 19	10 18.1	+08 45	11 55 46	+07 11
22	7469.5	0 06.6	+00 43	11 05.0	+05 14	11 59 43	+06 53
23	7470.5	0 10.2	+01 07	11 50.9	+01 32	12 03 39	+06 35
24	7471.5	0 13.9	+01 30	12 36.3	-02 12	12 07 36	+06 17
25	7472.5	0 17.5	+01 54	13 21.7	-05 49	12 11 32	+05 59
26	7473.5	0 21.2	+02 17	14 07.5	-09 12	12 15 29	+05 41
27	7474.5	0 24.8	+02 41	14 54.1	-12 13	12 19 26	+05 23
28	7475.5	0 28.4	+03 04	15 41.8	-14 45	12 23 22	+05 04
29	7476.5	0 32.1	+03 28	16 31.0	-16 40	12 27 19	+04 46
30	7477.5	0 35.7	+03 51	17 21.6	-17 52	12 31 15	+04 28
31	7478.5	0 39.4	+04 14	18 13.7	-18 14	12 35 12	+04 10

## SAULĒS IR MĒNULIO PUSIAUJINĒS KOORDINATĒS

Žvaigždinis laiks ( $S_0$ ) 0 val. pasauliniu laiku

### Balandis

Mēn. diena	Julijaus diena	Saulē		Mēnulis		$S_0$ h m s	$\eta$ m s
		$\alpha$ h m	$\delta$ ° ′	$\alpha$ h m	$\delta$ ° ′		
	245....						
1	7479.5	0 43.0	+04 37	19 07.0	-17 43	12 39 08	+03 52
2	7480.5	0 46.7	+05 00	20 01.3	-16 14	12 43 05	+03 35
3	7481.5	0 50.3	+05 24	20 56.4	-13 50	12 47 01	+03 17
4	7482.5	0 54.0	+05 46	21 52.1	-10 33	12 50 58	+03 00
5	7483.5	0 57.6	+06 09	22 48.3	-06 33	12 54 55	+02 42
6	7484.5	1 01.3	+06 32	23 45.0	-02 02	12 58 51	+02 25
7	7485.5	1 04.9	+06 55	0 42.6	+02 42	13 02 48	+02 09
8	7486.5	1 08.6	+07 17	1 41.0	+07 18	13 06 44	+01 52
9	7487.5	1 12.3	+07 39	2 40.4	+11 25	13 10 41	+01 36
10	7488.5	1 15.9	+08 02	3 40.5	+14 43	13 14 37	+01 19
11	7489.5	1 19.6	+08 24	4 40.7	+17 00	13 18 34	+01 04
12	7490.5	1 23.3	+08 46	5 40.2	+18 09	13 22 30	+00 48
13	7491.5	1 27.0	+09 07	6 38.1	+18 10	13 26 27	+00 33
14	7492.5	1 30.7	+09 29	7 33.9	+17 09	13 30 24	+00 18
15	7493.5	1 34.4	+09 51	8 27.3	+15 16	13 34 20	+00 03
16	7494.5	1 38.1	+10 12	9 18.1	+12 42	13 38 17	-00 11
17	7495.5	1 41.8	+10 33	10 06.8	+09 36	13 42 13	-00 25
18	7496.5	1 45.5	+10 54	10 53.8	+06 09	13 46 10	-00 39
19	7497.5	1 49.2	+11 15	11 39.7	+02 29	13 50 06	-00 52
20	7498.5	1 53.0	+11 35	12 24.9	-01 15	13 54 03	-01 05
21	7499.5	1 56.7	+11 56	13 10.1	-04 55	13 57 59	-01 17
22	7500.5	2 00.4	+12 16	13 55.6	-08 24	14 01 56	-01 29
23	7501.5	2 04.2	+12 36	14 42.1	-11 33	14 05 53	-01 41
24	7502.5	2 08.0	+12 56	15 29.6	-14 15	14 09 49	-01 52
25	7503.5	2 11.7	+13 16	16 18.5	-16 21	14 13 46	-02 02
26	7504.5	2 15.5	+13 35	17 08.7	-17 46	14 17 42	-02 12
27	7505.5	2 19.3	+13 54	18 00.2	-18 22	14 21 39	-02 22
28	7506.5	2 23.1	+14 13	18 52.6	-18 06	14 25 35	-02 31
29	7507.5	2 26.9	+14 32	19 45.6	-16 55	14 29 32	-02 39
30	7508.5	2 30.7	+14 50	20 39.1	-14 51	14 33 28	-02 47

## SAULĒS IR MĒNULIO PUSIAUJINĒS KOORDINATĒS

Žvaigždinis laiks ( $S_0$ ) 0 val. pasauliniu laiku

**Gegužē**

Mēn. diena	Julijaus diena	Saulē		Mēnulis		$S_0$ h m s	$\eta$ m s
		$\alpha$ h m	$\delta$ ° ′	$\alpha$ h m	$\delta$ ° ′		
	245....						
1	7509.5	2 34.5	+15 08	21 32.9	-11 55	14 37 25	-02 55
2	7510.5	2 38.3	+15 26	22 27.1	-08 16	14 41 22	-03 02
3	7511.5	2 42.2	+15 44	23 21.8	-04 02	14 45 18	-03 08
4	7512.5	2 46.0	+16 02	0 17.5	+00 34	14 49 15	-03 14
5	7513.5	2 49.9	+16 19	1 14.5	+05 13	14 53 11	-03 19
6	7514.5	2 53.7	+16 36	2 13.1	+09 37	14 57 08	-03 23
7	7515.5	2 57.6	+16 52	3 13.2	+13 23	15 01 04	-03 27
8	7516.5	3 01.5	+17 09	4 14.4	+16 14	15 05 01	-03 31
9	7517.5	3 05.4	+17 25	5 15.9	+17 57	15 08 57	-03 34
10	7518.5	3 09.3	+17 41	6 16.5	+18 27	15 12 54	-03 36
11	7519.5	3 13.2	+17 56	7 15.0	+17 47	15 16 51	-03 38
12	7520.5	3 17.1	+18 11	8 10.9	+16 08	15 20 47	-03 39
13	7521.5	3 21.1	+18 26	9 3.8	+13 42	15 24 44	-03 40
14	7522.5	3 25.0	+18 41	9 54.0	+10 40	15 28 40	-03 40
15	7523.5	3 29.0	+18 55	10 41.9	+07 15	15 32 37	-03 39
16	7524.5	3 32.9	+19 09	11 28.2	+03 35	15 36 33	-03 38
17	7525.5	3 36.9	+19 22	12 13.6	-00 10	15 40 30	-03 37
18	7526.5	3 40.9	+19 36	12 58.6	-03 54	15 44 26	-03 35
19	7527.5	3 44.8	+19 49	13 43.9	-07 28	15 48 23	-03 32
20	7528.5	3 48.8	+20 01	14 30.0	-10 45	15 52 20	-03 29
21	7529.5	3 52.8	+20 14	15 17.3	-13 37	15 56 16	-03 25
22	7530.5	3 56.9	+20 25	16 06.1	-15 57	16 00 13	-03 21
23	7531.5	4 00.9	+20 37	16 56.3	-17 35	16 04 09	-03 16
24	7532.5	4 04.9	+20 48	17 47.9	-18 26	16 08 06	-03 11
25	7533.5	4 08.9	+20 59	18 40.4	-18 25	16 12 02	-03 05
26	7534.5	4 13.0	+21 10	19 33.4	-17 29	16 15 59	-02 59
27	7535.5	4 17.0	+21 20	20 26.5	-15 38	16 19 55	-02 52
28	7536.5	4 21.1	+21 29	21 19.6	-12 58	16 23 52	-02 45
29	7537.5	4 25.2	+21 39	22 12.5	-09 33	16 27 49	-02 37
30	7538.5	4 29.3	+21 48	23 05.5	-05 34	16 31 45	-02 29
31	7539.5	4 33.3	+21 56	23 59.0	-01 11	16 35 42	-02 21

## SAULĒS IR MĒNULIO PUSIAUJINĒS KOORDINĀTĒS

Žvaigždinis laiks ( $S_0$ ) 0 val. pasauliniu laiku

### Birželis

Mēn. diena	Julijaus diena	Saulē		Mēnulis		$S_0$ h m s	$\eta$ m s
		$\alpha$ h m	$\delta$ ° ′	$\alpha$ h m	$\delta$ ° ′		
245....							
1	7540.5	4 37.4	+22 05	0 53.6	+03 22	16 39 38	-02 12
2	7541.5	4 41.5	+22 13	1 49.8	+07 49	16 43 35	-02 02
3	7542.5	4 45.6	+22 20	2 47.8	+11 50	16 47 31	-01 52
4	7543.5	4 49.8	+22 27	3 47.8	+15 08	16 51 28	-01 42
5	7544.5	4 53.9	+22 34	4 49.0	+17 24	16 55 24	-01 31
6	7545.5	4 58.0	+22 40	5 50.6	+18 29	16 59 21	-01 21
7	7546.5	5 02.1	+22 46	6 51.1	+18 21	17 03 18	-01 09
8	7547.5	5 06.3	+22 52	7 49.4	+17 05	17 07 14	-00 58
9	7548.5	5 10.4	+22 57	8 44.9	+14 53	17 11 11	-00 46
10	7549.5	5 14.5	+23 01	9 37.4	+12 00	17 15 07	-00 34
11	7550.5	5 18.7	+23 06	10 27.1	+08 37	17 19 04	-00 22
12	7551.5	5 22.8	+23 10	11 14.7	+04 57	17 23 00	-00 10
13	7552.5	5 27.0	+23 13	12 00.8	+01 09	17 26 57	+00 03
14	7553.5	5 31.1	+23 16	12 46.0	-02 38	17 30 53	+00 15
15	7554.5	5 35.3	+23 19	13 31.3	-06 18	17 34 50	+00 28
16	7555.5	5 39.5	+23 21	14 17.0	-09 43	17 38 47	+00 41
17	7556.5	5 43.6	+23 23	15 03.9	-12 45	17 42 43	+00 54
18	7557.5	5 47.8	+23 24	15 52.3	-15 17	17 46 40	+01 07
19	7558.5	5 51.9	+23 25	16 42.3	-17 12	17 50 36	+01 20
20	7559.5	5 56.1	+23 26	17 33.8	-18 20	17 54 33	+01 33
21	7560.5	6 00.2	+23 26	18 26.7	-18 35	17 58 29	+01 46
22	7561.5	6 04.4	+23 26	19 20.3	-17 55	18 02 26	+01 58
23	7562.5	6 08.6	+23 25	20 14.2	-16 19	18 06 22	+02 11
24	7563.5	6 12.7	+23 24	21 07.7	-13 50	18 10 19	+02 24
25	7564.5	6 16.9	+23 23	22 00.9	-10 36	18 14 16	+02 37
26	7565.5	6 21.0	+23 21	22 53.6	-06 45	18 18 12	+02 49
27	7566.5	6 25.2	+23 19	23 46.3	-02 30	18 22 09	+03 02
28	7567.5	6 29.3	+23 16	0 39.4	+01 57	18 26 05	+03 14
29	7568.5	6 33.5	+23 13	1 33.6	+06 21	18 30 02	+03 26
30	7569.5	6 37.6	+23 09	2 29.2	+10 27	18 33 58	+03 38

## SAULĒS IR MĒNULIO PUSIAUJINĒS KOORDINATĒS

Žvaigždinis laiks ( $S_0$ ) 0 val. pasauliniu laiku

### Liepa

MĒn. diena	Julijaus diena	Saulē		Mēnulis		$S_0$ h m s	$\eta$ m s
		$\alpha$ h m	$\delta$ ° ′	$\alpha$ h m	$\delta$ ° ′		
245....							
1	7570.5	6 41.7	+23 05	3 26.7	+13 57	18 37 55	+03 50
2	7571.5	6 45.9	+23 01	4 26.0	+16 36	18 41 51	+04 02
3	7572.5	6 50.0	+22 56	5 26.3	+18 11	18 45 48	+04 13
4	7573.5	6 54.1	+22 51	6 26.7	+18 35	18 49 45	+04 24
5	7574.5	6 58.3	+22 46	7 26.0	+17 49	18 53 41	+04 34
6	7575.5	7 02.4	+22 40	8 23.2	+16 00	18 57 38	+04 45
7	7576.5	7 06.5	+22 33	9 17.6	+13 21	19 01 34	+04 54
8	7577.5	7 10.6	+22 27	10 09.3	+10 06	19 05 31	+05 04
9	7578.5	7 14.7	+22 20	10 58.5	+06 28	19 09 27	+05 13
10	7579.5	7 18.8	+22 12	11 45.7	+02 39	19 13 24	+05 22
11	7580.5	7 22.8	+22 04	12 31.7	-01 12	19 17 20	+05 30
12	7581.5	7 26.9	+21 56	13 17.2	-04 56	19 21 17	+05 38
13	7582.5	7 31.0	+21 47	14 02.8	-08 28	19 25 14	+05 45
14	7583.5	7 35.0	+21 38	14 49.2	-11 39	19 29 10	+05 52
15	7584.5	7 39.1	+21 29	15 36.8	-14 23	19 33 07	+05 58
16	7585.5	7 43.1	+21 19	16 26.1	-16 32	19 37 03	+06 03
17	7586.5	7 47.1	+21 09	17 17.2	-17 58	19 41 00	+06 09
18	7587.5	7 51.2	+20 59	18 09.8	-18 34	19 44 56	+06 13
19	7588.5	7 55.2	+20 48	19 03.7	-18 14	19 48 53	+06 17
20	7589.5	7 59.2	+20 37	19 58.3	-16 56	19 52 49	+06 21
21	7590.5	8 03.2	+20 25	20 53.0	-14 42	19 56 46	+06 24
22	7591.5	8 7.1	+20 14	21 47.3	-11 38	20 00 43	+06 26
23	7592.5	8 11.1	+20 01	22 41.1	-07 53	20 04 39	+06 28
24	7593.5	8 15.1	+19 49	23 34.5	-03 41	20 08 36	+06 29
25	7594.5	8 19.0	+19 36	0 27.8	+00 46	20 12 32	+06 30
26	7595.5	8 23.0	+19 23	1 21.5	+05 11	20 16 29	+06 30
27	7596.5	8 26.9	+19 09	2 16.2	+09 20	20 20 25	+06 30
28	7597.5	8 30.8	+18 56	3 12.1	+12 57	20 24 22	+06 29
29	7598.5	8 34.8	+18 42	4 09.5	+15 49	20 28 18	+06 27
30	7599.5	8 38.7	+18 27	5 08.0	+17 42	20 32 15	+06 25
31	7600.5	8 42.6	+18 12	6 07.0	+18 30	20 36 12	+06 22



## SAULĒS IR MĒNULIO PUSIAUJINĒS KOORDINATĒS

Žvaigždinis laiks ( $S_0$ ) 0 val. pasauliniu laiku

### Rugpjūtis

Mēn. diena	Julijaus diena	Saulē		Mēnulis		$S_0$ h m s	$\eta$ m s
		$\alpha$ h m	$\delta$ ° ′	$\alpha$ h m	$\delta$ ° ′		
	245....						
1	7601.5	8 46.4	+17 57	7 05.5	+18 10	20 40 08	+06 19
2	7602.5	8 50.3	+17 42	8 02.7	+16 46	20 44 05	+06 15
3	7603.5	8 54.2	+17 26	8 57.8	+14 28	20 48 01	+06 10
4	7604.5	8 58.0	+17 11	9 50.5	+11 27	20 51 58	+06 05
5	7605.5	9 01.9	+16 54	10 40.9	+07 56	20 55 54	+05 59
6	7606.5	9 05.7	+16 38	11 29.2	+04 09	20 59 51	+05 53
7	7607.5	9 09.6	+16 21	12 16.1	+00 17	21 03 47	+05 46
8	7608.5	9 13.4	+16 04	13 02.1	-03 32	21 07 44	+05 38
9	7609.5	9 17.2	+15 47	13 47.8	-07 10	21 11 41	+05 30
10	7610.5	9 21.0	+15 30	14 33.9	-10 29	21 15 37	+05 21
11	7611.5	9 24.8	+15 12	15 20.8	-13 23	21 19 34	+05 12
12	7612.5	9 28.5	+14 54	16 09.2	-15 44	21 23 30	+05 02
13	7613.5	9 32.3	+14 36	16 59.1	-17 26	21 27 27	+04 51
14	7614.5	9 36.1	+14 17	17 50.8	-18 21	21 31 23	+04 40
15	7615.5	9 39.8	+13 59	18 44.0	-18 23	21 35 20	+04 28
16	7616.5	9 43.5	+13 40	19 38.3	-17 28	21 39 16	+04 16
17	7617.5	9 47.3	+13 21	20 33.4	-15 35	21 43 13	+04 03
18	7618.5	9 51.0	+13 01	21 28.6	-12 47	21 47 10	+03 50
19	7619.5	9 54.7	+12 42	22 23.7	-09 12	21 51 06	+03 36
20	7620.5	9 58.4	+12 22	23 18.5	-05 03	21 55 03	+03 22
21	7621.5	10 02.1	+12 02	0 13.1	-00 33	21 58 59	+03 07
22	7622.5	10 05.8	+11 42	1 08.0	+03 59	22 02 56	+02 52
23	7623.5	10 09.5	+11 22	2 03.3	+08 17	22 06 52	+02 37
24	7624.5	10 13.2	+11 02	2 59.5	+12 05	22 10 49	+02 21
25	7625.5	10 16.8	+10 41	3 56.6	+15 09	22 14 45	+02 04
26	7626.5	10 20.5	+10 20	4 54.4	+17 16	22 18 42	+01 48
27	7627.5	10 24.1	+09 59	5 52.5	+18 20	22 22 39	+01 30
28	7628.5	10 27.8	+09 38	6 50.1	+18 18	22 26 35	+01 13
29	7629.5	10 31.4	+09 17	7 46.6	+17 14	22 30 32	+00 55
30	7630.5	10 35.1	+08 55	8 41.3	+15 13	22 34 28	+00 37
31	7631.5	10 38.7	+08 34	9 34.0	+12 27	22 38 25	+00 18

## SAULĒS IR MĒNULIO PUSIAUJINĒS KOORDINATĒS

Žvaigždinis laiks ( $S_0$ ) 0 val. pasauliniu laiku

### Rugsējis

Mēn. diena	Julijaus diena	Saulē		Mēnulis		$S_0$ h m s	$\eta$ m s
		$\alpha$ h m	$\delta$ ° ′	$\alpha$ h m	$\delta$ ° ′		
245....							
1	7632.5	10 42.3	+08 12	10 24.6	+09 08	22 42 21	-00 01
2	7633.5	10 46.0	+07 50	11 13.4	+05 27	22 46 18	-00 20
3	7634.5	10 49.6	+07 28	12 00.7	+01 36	22 50 14	-00 39
4	7635.5	10 53.2	+07 06	12 47.0	-02 16	22 54 11	-00 59
5	7636.5	10 56.8	+06 44	13 32.9	-05 58	22 58 08	-01 19
6	7637.5	11 00.4	+06 21	14 18.9	-09 24	23 02 04	-01 39
7	7638.5	11 04.0	+05 59	15 05.5	-12 27	23 06 01	-01 59
8	7639.5	11 07.6	+05 37	15 53.1	-14 59	23 09 57	-02 20
9	7640.5	11 11.2	+05 14	16 42.0	-16 53	23 13 54	-02 40
10	7641.5	11 14.8	+04 51	17 32.3	-18 05	23 17 50	-03 01
11	7642.5	11 18.4	+04 28	18 24.1	-18 27	23 21 47	-03 22
12	7643.5	11 22.0	+04 06	19 17.1	-17 55	23 25 43	-03 44
13	7644.5	11 25.6	+03 43	20 11.2	-16 26	23 29 40	-04 05
14	7645.5	11 29.2	+03 20	21 06.0	-14 01	23 33 37	-04 26
15	7646.5	11 32.8	+02 57	22 01.2	-10 45	23 37 33	-04 48
16	7647.5	11 36.3	+02 33	22 56.6	-06 46	23 41 30	-05 09
17	7648.5	11 39.9	+02 10	23 52.3	-02 17	23 45 26	-05 31
18	7649.5	11 43.5	+01 47	0 48.4	+02 23	23 49 23	-05 52
19	7650.5	11 47.1	+01 24	1 45.2	+06 56	23 53 19	-06 14
20	7651.5	11 50.7	+01 01	2 42.9	+11 03	23 57 16	-06 35
21	7652.5	11 54.3	+00 37	3 41.3	+14 26	0 01 12	-06 56
22	7653.5	11 57.8	+00 14	4 40.3	+16 52	0 05 09	-07 18
23	7654.5	12 01.4	-00 09	5 39.1	+18 12	0 09 06	-07 39
24	7655.5	12 05.0	-00 33	6 37.2	+18 25	0 13 02	-08 00
25	7656.5	12 08.6	-00 56	7 33.8	+17 35	0 16 59	-08 20
26	7657.5	12 12.2	-01 19	8 28.5	+15 47	0 20 55	-08 41
27	7658.5	12 15.8	-01 43	9 21.0	+13 14	0 24 52	-09 01
28	7659.5	12 19.4	-02 06	10 11.4	+10 04	0 28 48	-09 22
29	7660.5	12 23.0	-02 30	11 00.0	+06 30	0 32 45	-09 42
30	7661.5	12 26.7	-02 53	11 47.2	+02 42	0 36 41	-10 01

## SAULĒS IR MĒNULIO PUSIAUJINĒS KOORDINATĒS

Žvaigždinis laiks ( $S_0$ ) 0 val. pasauliniu laiku

### Spalis

MĒn. diena	Julijaus diena	Saulē		Mēnulis		$S_0$ h m s	$\eta$ m s
		$\alpha$ h m	$\delta$ ° ′	$\alpha$ h m	$\delta$ ° ′		
	245....						
1	7662.5	12 30.3	-03 16	12 33.5	-01 10	0 40 38	-10 21
2	7663.5	12 33.9	-03 39	13 19.4	-04 56	0 44 35	-10 40
3	7664.5	12 37.5	-04 03	14 05.3	-08 28	0 48 31	-10 59
4	7665.5	12 41.2	-04 26	14 51.7	-11 39	0 52 28	-11 17
5	7666.5	12 44.8	-04 49	15 38.9	-14 22	0 56 24	-11 35
6	7667.5	12 48.5	-05 12	16 27.1	-16 28	1 00 21	-11 53
7	7668.5	12 52.1	-05 35	17 16.5	-17 53	1 04 17	-12 10
8	7669.5	12 55.8	-05 58	18 07.1	-18 31	1 08 14	-12 27
9	7670.5	12 59.4	-06 21	18 58.7	-18 18	1 12 10	-12 44
10	7671.5	13 03.1	-06 43	19 51.1	-17 11	1 16 07	-13 00
11	7672.5	13 06.8	-07 06	20 44.3	-15 10	1 20 04	-13 16
12	7673.5	13 10.5	-07 29	21 38.0	-12 17	1 24 00	-13 31
13	7674.5	13 14.2	-07 51	22 32.3	-08 38	1 27 57	-13 46
14	7675.5	13 17.9	-08 13	23 27.3	-04 22	1 31 53	-14 00
15	7676.5	13 21.6	-08 36	0 23.3	+00 17	1 35 50	-14 13
16	7677.5	13 25.3	-08 58	1 20.4	+05 01	1 39 46	-14 27
17	7678.5	13 29.1	-09 20	2 19.0	+09 29	1 43 43	-14 39
18	7679.5	13 32.8	-09 41	3 18.9	+13 20	1 47 39	-14 51
19	7680.5	13 36.6	-10 03	4 19.8	+16 15	1 51 36	-15 02
20	7681.5	13 40.3	-10 25	5 20.9	+18 02	1 55 33	-15 13
21	7682.5	13 44.1	-10 46	6 21.2	+18 37	1 59 29	-15 23
22	7683.5	13 47.9	-11 07	7 19.7	+18 02	2 03 26	-15 32
23	7684.5	13 51.7	-11 28	8 15.8	+16 26	2 07 22	-15 41
24	7685.5	13 55.5	-11 49	9 09.2	+14 00	2 11 19	-15 49
25	7686.5	13 59.3	-12 10	10 00.1	+10 57	2 15 15	-15 56
26	7687.5	14 03.1	-12 31	10 48.8	+07 28	2 19 12	-16 03
27	7688.5	14 07.0	-12 51	11 35.9	+03 42	2 23 08	-16 08
28	7689.5	14 10.9	-13 11	12 21.9	-00 09	2 27 05	-16 13
29	7690.5	14 14.7	-13 31	13 07.5	-03 58	2 31 02	-16 17
30	7691.5	14 18.6	-13 51	13 53.2	-07 36	2 34 58	-16 21
31	7692.5	14 22.5	-14 10	14 39.3	-10 55	2 38 55	-16 23

## SAULĒS IR MĒNULIO PUSIAUJINĒS KOORDINATĒS

Žvaigždinis laiks ( $S_0$ ) 0 val. pasauliniu laiku

### Lapkritis

Mēn. diena	Julijaus diena	Saulē		Mēnulis		$S_0$ h m s	$\eta$ m s
		$\alpha$ h m	$\delta$ ° ′	$\alpha$ h m	$\delta$ ° ′		
245....							
1	7693.5	14 26.4	-14 30	15 26.3	-13 48	2 42 51	-16 25
2	7694.5	14 30.4	-14 49	16 14.3	-16 06	2 46 48	-16 26
3	7695.5	14 34.3	-15 07	17 03.4	-17 44	2 50 44	-16 27
4	7696.5	14 38.2	-15 26	17 53.5	-18 37	2 54 41	-16 26
5	7697.5	14 42.2	-15 44	18 44.3	-18 39	2 58 37	-16 25
6	7698.5	14 46.2	-16 02	19 35.8	-17 49	3 02 34	-16 22
7	7699.5	14 50.2	-16 20	20 27.6	-16 07	3 06 31	-16 19
8	7700.5	14 54.2	-16 38	21 19.6	-13 35	3 10 27	-16 16
9	7701.5	14 58.2	-16 55	22 11.9	-10 17	3 14 24	-16 11
10	7702.5	15 02.2	-17 12	23 04.9	-06 20	3 18 20	-16 05
11	7703.5	15 06.3	-17 28	23 58.7	-01 55	3 22 17	-15 59
12	7704.5	15 10.3	-17 45	0 54.0	+02 46	3 26 13	-15 52
13	7705.5	15 14.4	-18 01	1 51.3	+07 24	3 30 10	-15 44
14	7706.5	15 18.5	-18 17	2 50.6	+11 39	3 34 06	-15 35
15	7707.5	15 22.6	-18 32	3 52.0	+15 08	3 38 03	-15 26
16	7708.5	15 26.7	-18 47	4 54.7	+17 33	3 42 00	-15 15
17	7709.5	15 30.9	-19 02	5 57.5	+18 43	3 45 56	-15 04
18	7710.5	15 35.0	-19 16	6 59.0	+18 35	3 49 53	-14 51
19	7711.5	15 39.2	-19 30	7 58.1	+17 17	3 53 49	-14 38
20	7712.5	15 43.3	-19 44	8 54.1	+15 02	3 57 46	-14 25
21	7713.5	15 47.5	-19 57	9 46.9	+12 03	4 01 42	-14 10
22	7714.5	15 51.7	-20 10	10 36.9	+08 36	4 05 39	-13 54
23	7715.5	15 56.0	-20 23	11 24.7	+04 50	4 09 35	-13 38
24	7716.5	16 00.2	-20 35	12 11.1	+00 58	4 13 32	-13 21
25	7717.5	16 04.4	-20 47	12 56.6	-02 54	4 17 29	-13 03
26	7718.5	16 08.7	-20 58	13 41.9	-06 37	4 21 25	-12 44
27	7719.5	16 12.9	-21 09	14 27.7	-10 04	4 25 22	-12 25
28	7720.5	16 17.2	-21 20	15 14.3	-13 06	4 29 18	-12 05
29	7721.5	16 21.5	-21 30	16 02.1	-15 37	4 33 15	-11 44
30	7722.5	16 25.8	-21 40	16 51.1	-17 30	4 37 11	-11 22

## SAULĒS IR MĒNULIO PUSIAUJINĒS KOORDINATĒS

Žvaigždinis laiks ( $S_0$ ) 0 val. pasauliniu laiku

### Gruodis

MĒn. diena	Julijaus diena	Saulē		Mēnulis		$S_0$ h m s	$\eta$ m s
		$\alpha$ h m	$\delta$ ° ′	$\alpha$ h m	$\delta$ ° ′		
	245....						
1	7723.5	16 30.1	-21 50	17 41.2	-18 37	4 41 08	-11 00
2	7724.5	16 34.4	-21 59	18 32.2	-18 54	4 45 04	-10 37
3	7725.5	16 38.8	-22 07	19 23.6	-18 19	4 49 01	-10 14
4	7726.5	16 43.1	-22 16	20 15.1	-16 51	4 52 58	-09 50
5	7727.5	16 47.5	-22 23	21 06.6	-14 34	4 56 54	-09 25
6	7728.5	16 51.8	-22 31	21 57.8	-11 32	5 00 51	-09 00
7	7729.5	16 56.2	-22 38	22 49.0	-07 52	5 04 47	-08 34
8	7730.5	17 00.6	-22 44	23 40.7	-03 42	5 08 44	-08 08
9	7731.5	17 05.0	-22 50	0 33.4	+00 47	5 12 40	-07 42
10	7732.5	17 09.4	-22 55	1 27.7	+05 21	5 16 37	-07 15
11	7733.5	17 13.8	-23 01	2 24.3	+09 43	5 20 33	-06 47
12	7734.5	17 18.2	-23 05	3 23.4	+13 34	5 24 30	-06 19
13	7735.5	17 22.6	-23 09	4 24.8	+16 33	5 28 27	-05 51
14	7736.5	17 27.0	-23 13	5 27.9	+18 24	5 32 23	-05 23
15	7737.5	17 31.4	-23 16	6 31.1	+18 56	5 36 20	-04 54
16	7738.5	17 35.8	-23 19	7 33.0	+18 10	5 40 16	-04 25
17	7739.5	17 40.3	-23 21	8 32.2	+16 16	5 44 13	-03 56
18	7740.5	17 44.7	-23 23	9 28.1	+13 28	5 48 09	-03 27
19	7741.5	17 49.1	-23 25	10 20.7	+10 04	5 52 06	-02 57
20	7742.5	17 53.6	-23 26	11 10.5	+06 17	5 56 02	-02 28
21	7743.5	17 58.0	-23 26	11 58.1	+02 21	5 59 59	-01 58
22	7744.5	18 02.5	-23 26	12 44.3	-01 36	6 03 56	-01 28
23	7745.5	18 06.9	-23 26	13 29.9	-05 25	6 07 52	-00 58
24	7746.5	18 11.3	-23 25	14 15.5	-08 59	6 11 49	-00 28
25	7747.5	18 15.8	-23 23	15 01.7	-12 11	6 15 45	+00 01
26	7748.5	18 20.2	-23 21	15 49.0	-14 54	6 19 42	+00 31
27	7749.5	18 24.6	-23 19	16 37.7	-17 00	6 23 38	+01 01
28	7750.5	18 29.1	-23 16	17 27.7	-18 23	6 27 35	+01 30
29	7751.5	18 33.5	-23 13	18 18.8	-18 57	6 31 31	+02 00
30	7752.5	18 37.9	-23 09	19 10.7	-18 38	6 35 28	+02 29
31	7753.5	18 42.4	-23 05	20 02.9	-17 25	6 39 25	+02 58