



Mars 2017

Datum	α	δ	b	Δ (AE)	E	mv	φ	\varnothing	k	q (")	l	r
1.01.	22:45	-8.8	-0.9	1.640	59 O	0.9	36.6	5.71	0.901	0.56	16.2	1.409
4.01.	22:54	-7.9	-0.8	1.661	58 O	0.9	36.2	5.64	0.903	0.54	18.0	1.412
7.01.	23:02	-7.0	-0.8	1.681	57 O	0.9	35.8	5.57	0.906	0.52	19.8	1.414
10.01.	23:10	-6.1	-0.7	1.701	56 O	1.0	35.3	5.50	0.908	0.51	21.6	1.417
13.01.	23:19	-5.1	-0.7	1.721	56 O	1.0	34.9	5.44	0.910	0.49	23.4	1.420
16.01.	23:27	-4.2	-0.6	1.741	55 O	1.0	34.4	5.38	0.913	0.47	25.2	1.423
19.01.	23:35	-3.3	-0.6	1.761	54 O	1.0	33.9	5.31	0.915	0.45	27.0	1.426
22.01.	23:43	-2.3	-0.5	1.782	53 O	1.0	33.5	5.25	0.917	0.44	28.8	1.429
25.01.	23:51	-1.4	-0.5	1.802	52 O	1.1	33.0	5.19	0.919	0.42	30.6	1.432
28.01.	0:00	-0.5	-0.4	1.822	52 O	1.1	32.5	5.14	0.922	0.40	32.4	1.435
31.01.	0:08	0.5	-0.4	1.842	51 O	1.1	32.0	5.08	0.924	0.39	34.1	1.439
3.02.	0:16	1.4	-0.3	1.863	50 O	1.1	31.6	5.02	0.926	0.37	35.9	1.442
6.02.	0:24	2.3	-0.3	1.883	49 O	1.2	31.1	4.97	0.928	0.36	37.6	1.445
9.02.	0:32	3.2	-0.3	1.903	48 O	1.2	30.6	4.92	0.930	0.34	39.3	1.449
12.02.	0:40	4.2	-0.2	1.923	48 O	1.2	30.1	4.87	0.933	0.33	41.1	1.452
15.02.	0:48	5.1	-0.2	1.943	47 O	1.2	29.6	4.82	0.935	0.31	42.8	1.456
18.02.	0:56	6.0	-0.1	1.963	46 O	1.2	29.1	4.77	0.937	0.30	44.5	1.460
21.02.	1:05	6.8	-0.1	1.983	45 O	1.3	28.6	4.72	0.939	0.29	46.2	1.463
24.02.	1:13	7.7	0.0	2.003	44 O	1.3	28.1	4.67	0.941	0.27	47.9	1.467
27.02.	1:21	8.6	0.0	2.023	43 O	1.3	27.6	4.63	0.943	0.26	49.6	1.471
2.03.	1:29	9.4	0.0	2.043	43 O	1.3	27.1	4.58	0.945	0.25	51.3	1.474
5.03.	1:37	10.2	0.1	2.062	42 O	1.3	26.5	4.54	0.947	0.24	52.9	1.478
8.03.	1:45	11.1	0.1	2.082	41 O	1.3	26.0	4.50	0.949	0.23	54.6	1.482
11.03.	1:54	11.9	0.1	2.101	40 O	1.4	25.5	4.46	0.951	0.22	56.2	1.486
14.03.	2:02	12.6	0.2	2.120	39 O	1.4	25.0	4.42	0.953	0.21	57.9	1.490
17.03.	2:10	13.4	0.2	2.139	38 O	1.4	24.5	4.38	0.955	0.20	59.5	1.494
20.03.	2:19	14.1	0.3	2.158	38 O	1.4	23.9	4.34	0.957	0.19	61.1	1.498
23.03.	2:27	14.9	0.3	2.176	37 O	1.4	23.4	4.30	0.959	0.18	62.7	1.502
26.03.	2:35	15.6	0.3	2.195	36 O	1.4	22.9	4.26	0.961	0.17	64.3	1.505
29.03.	2:44	16.3	0.4	2.213	35 O	1.5	22.4	4.23	0.962	0.16	65.9	1.509
1.04.	2:52	16.9	0.4	2.231	34 O	1.5	21.8	4.20	0.964	0.15	67.5	1.513
4.04.	3:00	17.5	0.4	2.249	33 O	1.5	21.3	4.16	0.966	0.14	69.1	1.517
7.04.	3:09	18.2	0.4	2.266	33 O	1.5	20.7	4.13	0.968	0.13	70.7	1.521
10.04.	3:17	18.7	0.5	2.283	32 O	1.5	20.2	4.10	0.969	0.13	72.3	1.525
13.04.	3:26	19.3	0.5	2.300	31 O	1.5	19.7	4.07	0.971	0.12	73.8	1.529
16.04.	3:35	19.8	0.5	2.317	30 O	1.5	19.1	4.04	0.972	0.11	75.4	1.533
19.04.	3:43	20.3	0.6	2.333	29 O	1.6	18.6	4.01	0.974	0.10	76.9	1.537
22.04.	3:52	20.8	0.6	2.350	28 O	1.6	18.0	3.98	0.975	0.10	78.4	1.541
25.04.	4:01	21.2	0.6	2.365	27 O	1.6	17.5	3.96	0.977	0.09	80.0	1.544
28.04.	4:09	21.7	0.6	2.381	27 O	1.6	16.9	3.93	0.978	0.09	81.5	1.548



Datum	α	δ	b	Δ (AE)	E	mv	φ	\emptyset	k	q (")	l	r
1.05.	4:18	22.1	0.7	2.396	26 O	1.6	16.4	3.91	0.980	0.08	83.0	1.552
4.05.	4:27	22.4	0.7	2.411	25 O	1.6	15.9	3.88	0.981	0.07	84.5	1.556
7.05.	4:35	22.7	0.7	2.425	24 O	1.6	15.3	3.86	0.982	0.07	86.0	1.559
10.05.	4:44	23.0	0.7	2.440	23 O	1.6	14.7	3.84	0.984	0.06	87.5	1.563
13.05.	4:53	23.3	0.7	2.453	22 O	1.6	14.2	3.82	0.985	0.06	89.0	1.567
16.05.	5:02	23.5	0.8	2.467	21 O	1.6	13.6	3.79	0.986	0.05	90.4	1.570
19.05.	5:11	23.8	0.8	2.480	21 O	1.6	13.1	3.77	0.987	0.05	91.9	1.574
22.05.	5:19	23.9	0.8	2.492	20 O	1.7	12.5	3.76	0.988	0.04	93.4	1.577
25.05.	5:28	24.1	0.8	2.505	19 O	1.7	12.0	3.74	0.989	0.04	94.8	1.581
28.05.	5:37	24.2	0.8	2.517	18 O	1.7	11.4	3.72	0.990	0.04	96.3	1.584
31.05.	5:46	24.3	0.9	2.528	17 O	1.7	10.9	3.70	0.991	0.03	97.7	1.588
3.06.	5:55	24.3	0.9	2.539	16 O	1.7	10.3	3.69	0.992	0.03	99.2	1.591
6.06.	6:03	24.3	0.9	2.550	15 O	1.7	9.7	3.67	0.993	0.03	100.6	1.594
9.06.	6:12	24.3	0.9	2.560	15 O	1.7	9.2	3.66	0.994	0.02	102.0	1.597
12.06.	6:21	24.3	0.9	2.569	14 O	1.7	8.6	3.64	0.994	0.02	103.5	1.601
15.06.	6:30	24.2	0.9	2.579	13 O	1.7	8.0	3.63	0.995	0.02	104.9	1.604
18.06.	6:38	24.1	1.0	2.587	12 O	1.7	7.5	3.62	0.996	0.02	106.3	1.607
21.06.	6:47	24.0	1.0	2.596	11 O	1.7	6.9	3.61	0.996	0.01	107.7	1.610
24.06.	6:55	23.8	1.0	2.603	10 O	1.7	6.4	3.60	0.997	0.01	109.1	1.613
27.06.	7:04	23.6	1.0	2.611	9 O	1.7	5.8	3.59	0.997	0.01	110.5	1.615
30.06.	7:12	23.4	1.0	2.617	8 O	1.7	5.2	3.58	0.998	0.01	111.9	1.618
3.07.	7:21	23.2	1.0	2.624	7 O	1.7	4.7	3.57	0.998	0.01	113.3	1.621
6.07.	7:29	22.9	1.0	2.630	7 O	1.7	4.1	3.56	0.999	0.00	114.6	1.624
9.07.	7:38	22.6	1.0	2.635	6 O	1.7	3.5	3.55	0.999	0.00	116.0	1.626
12.07.	7:46	22.3	1.1	2.640	5 O	1.7	3.0	3.55	0.999	0.00	117.4	1.629
15.07.	7:54	21.9	1.1	2.644	4 O	1.7	2.4	3.54	1.000	0.00	118.8	1.631
18.07.	8:02	21.5	1.1	2.647	3 O	1.7	1.9	3.54	1.000	0.00	120.1	1.633
21.07.	8:11	21.1	1.1	2.651	2 O	1.7	1.3	3.53	1.000	0.00	121.5	1.636
24.07.	8:19	20.7	1.1	2.653	1 O	1.7	0.9	3.53	1.000	0.00	122.8	1.638
27.07.	8:27	20.3	1.1	2.655	1 O	1.7	0.7	3.53	1.000	0.00	124.2	1.640
30.07.	8:35	19.8	1.1	2.657	1 W	1.7	0.9	3.52	1.000	0.00	125.5	1.642
2.08.	8:43	19.3	1.1	2.658	2 W	1.7	1.3	3.52	1.000	0.00	126.9	1.644
5.08.	8:50	18.8	1.1	2.658	3 W	1.7	1.9	3.52	1.000	0.00	128.2	1.646
8.08.	8:58	18.3	1.1	2.658	4 W	1.7	2.4	3.52	1.000	0.00	129.6	1.648
11.08.	9:06	17.8	1.1	2.657	5 W	1.7	3.0	3.52	0.999	0.00	130.9	1.649
14.08.	9:14	17.2	1.1	2.656	6 W	1.7	3.6	3.52	0.999	0.00	132.3	1.651
17.08.	9:21	16.6	1.1	2.654	7 W	1.8	4.1	3.53	0.999	0.00	133.6	1.653
20.08.	9:29	16.0	1.1	2.651	8 W	1.8	4.7	3.53	0.998	0.01	134.9	1.654
23.08.	9:36	15.4	1.2	2.648	9 W	1.8	5.3	3.53	0.998	0.01	136.2	1.656
26.08.	9:44	14.8	1.2	2.645	10 W	1.8	5.9	3.54	0.997	0.01	137.6	1.657
29.08.	9:51	14.2	1.2	2.640	11 W	1.8	6.4	3.55	0.997	0.01	138.9	1.658



Datum	α	δ	b	Δ (AE)	E	mv	φ	\emptyset	k	q (")	l	r
1.09.	9:59	13.5	1.2	2.635	12 W	1.8	7.0	3.55	0.996	0.01	140.2	1.659
4.09.	10:06	12.9	1.2	2.630	13 W	1.8	7.6	3.56	0.996	0.02	141.5	1.660
7.09.	10:13	12.2	1.2	2.624	14 W	1.8	8.2	3.57	0.995	0.02	142.9	1.661
10.09.	10:21	11.5	1.2	2.617	15 W	1.8	8.8	3.58	0.994	0.02	144.2	1.662
13.09.	10:28	10.8	1.2	2.610	16 W	1.8	9.4	3.59	0.993	0.02	145.5	1.663
16.09.	10:35	10.1	1.2	2.602	17 W	1.8	10.0	3.60	0.992	0.03	146.8	1.664
19.09.	10:42	9.4	1.2	2.593	18 W	1.8	10.5	3.61	0.992	0.03	148.1	1.664
22.09.	10:49	8.7	1.2	2.584	19 W	1.8	11.1	3.62	0.991	0.03	149.4	1.665
25.09.	10:57	8.0	1.2	2.575	20 W	1.8	11.7	3.64	0.990	0.04	150.7	1.665
28.09.	11:04	7.2	1.2	2.564	21 W	1.8	12.3	3.65	0.989	0.04	152.0	1.666
1.10.	11:11	6.5	1.2	2.553	22 W	1.8	12.9	3.67	0.987	0.05	153.4	1.666
4.10.	11:18	5.8	1.2	2.542	23 W	1.8	13.5	3.68	0.986	0.05	154.7	1.666
7.10.	11:25	5.0	1.2	2.530	24 W	1.8	14.1	3.70	0.985	0.06	156.0	1.666
10.10.	11:32	4.3	1.2	2.517	25 W	1.8	14.7	3.72	0.984	0.06	157.3	1.666
13.10.	11:39	3.5	1.2	2.504	26 W	1.8	15.2	3.74	0.982	0.07	158.6	1.666
16.10.	11:46	2.8	1.2	2.490	27 W	1.8	15.8	3.76	0.981	0.07	159.9	1.666
19.10.	11:53	2.0	1.2	2.475	28 W	1.8	16.4	3.78	0.980	0.08	161.2	1.665
22.10.	12:00	1.2	1.2	2.460	29 W	1.8	17.0	3.80	0.978	0.08	162.5	1.665
25.10.	12:07	0.5	1.1	2.445	30 W	1.8	17.6	3.83	0.977	0.09	163.8	1.665
28.10.	12:13	-0.3	1.1	2.429	31 W	1.8	18.2	3.85	0.975	0.10	165.1	1.664
31.10.	12:20	-1.0	1.1	2.412	33 W	1.8	18.7	3.88	0.973	0.10	166.5	1.663
3.11.	12:27	-1.8	1.1	2.395	34 W	1.8	19.3	3.91	0.972	0.11	167.8	1.663
6.11.	12:34	-2.5	1.1	2.377	35 W	1.8	19.9	3.94	0.970	0.12	169.1	1.662
9.11.	12:41	-3.3	1.1	2.358	36 W	1.8	20.5	3.97	0.968	0.13	170.4	1.661
12.11.	12:48	-4.0	1.1	2.339	37 W	1.8	21.0	4.00	0.967	0.13	171.7	1.660
15.11.	12:55	-4.8	1.1	2.320	38 W	1.8	21.6	4.03	0.965	0.14	173.0	1.659
18.11.	13:02	-5.5	1.1	2.300	39 W	1.7	22.2	4.07	0.963	0.15	174.4	1.658
21.11.	13:09	-6.2	1.1	2.280	40 W	1.7	22.8	4.11	0.961	0.16	175.7	1.656
24.11.	13:16	-6.9	1.1	2.259	42 W	1.7	23.3	4.14	0.959	0.17	177.0	1.655
27.11.	13:23	-7.7	1.1	2.237	43 W	1.7	23.9	4.18	0.957	0.18	178.3	1.654
30.11.	13:30	-8.4	1.1	2.215	44 W	1.7	24.4	4.23	0.955	0.19	179.7	1.652
3.12.	13:37	-9.1	1.0	2.193	45 W	1.7	25.0	4.27	0.953	0.20	181.0	1.651
6.12.	13:45	-9.8	1.0	2.170	46 W	1.7	25.5	4.31	0.951	0.21	182.3	1.649
9.12.	13:52	-10.4	1.0	2.147	47 W	1.6	26.1	4.36	0.949	0.22	183.7	1.647
12.12.	13:59	-11.1	1.0	2.123	48 W	1.6	26.6	4.41	0.947	0.23	185.0	1.645
15.12.	14:06	-11.8	1.0	2.099	50 W	1.6	27.2	4.46	0.945	0.25	186.4	1.643
18.12.	14:13	-12.4	1.0	2.075	51 W	1.6	27.7	4.51	0.943	0.26	187.7	1.641
21.12.	14:21	-13.0	1.0	2.050	52 W	1.6	28.2	4.57	0.941	0.27	189.1	1.639
24.12.	14:28	-13.7	0.9	2.025	53 W	1.5	28.8	4.62	0.938	0.28	190.4	1.637
27.12.	14:35	-14.3	0.9	1.999	54 W	1.5	29.3	4.68	0.936	0.30	191.8	1.635
30.12.	14:43	-14.8	0.9	1.973	56 W	1.5	29.8	4.74	0.934	0.31	193.1	1.633

Die Ephemeriden gelten für 0 Uhr Weltzeit.

Geozentrische Koordinaten:

α und δ : Rektaszension und Deklination zum Äquinoktium des Datums. b: ekliptikale Breite; Δ : Abstand von der Erde.
E: Elongation (Winkel zwischen Planet und Sonnenmitte); mv: visuelle Helligkeit; φ : Phasenwinkel

Physische Ephemeriden (für Beobachtungen am Teleskop):

\emptyset : scheinbarer Durchmesser;
k: beleuchteter Teil; q: Phasendefekt (Beleuchtungsdefekt)

Heliozentrische Koordinaten:

l: Länge zum Äquinoktium des Datums; r: Abstand von der Sonne.