



Mars 2022

Datum	α	δ	b	Δ (AE)	E	mv	φ	\varnothing	k	q (")	l	r
1.01.	16:46	-22.5	-0.1	2.341	27 W	1.5	17.1	4.00	0.978	0.09	236.0	1.537
4.01.	16:55	-22.8	-0.2	2.325	28 W	1.5	17.7	4.03	0.976	0.10	237.5	1.533
7.01.	17:05	-23.0	-0.2	2.309	29 W	1.5	18.3	4.05	0.975	0.10	239.1	1.529
10.01.	17:14	-23.3	-0.2	2.293	30 W	1.5	18.9	4.08	0.973	0.11	240.6	1.525
13.01.	17:23	-23.4	-0.3	2.276	31 W	1.5	19.5	4.11	0.971	0.12	242.2	1.521
16.01.	17:33	-23.6	-0.3	2.259	32 W	1.5	20.1	4.14	0.970	0.13	243.8	1.517
19.01.	17:42	-23.7	-0.3	2.242	33 W	1.5	20.7	4.17	0.968	0.13	245.3	1.513
22.01.	17:52	-23.8	-0.4	2.225	34 W	1.5	21.2	4.21	0.966	0.14	246.9	1.509
25.01.	18:01	-23.8	-0.4	2.207	35 W	1.4	21.8	4.24	0.964	0.15	248.5	1.505
28.01.	18:11	-23.9	-0.4	2.190	36 W	1.4	22.4	4.27	0.962	0.16	250.1	1.501
31.01.	18:20	-23.8	-0.5	2.172	36 W	1.4	23.0	4.31	0.960	0.17	251.8	1.498
3.02.	18:30	-23.8	-0.5	2.154	37 W	1.4	23.5	4.35	0.958	0.18	253.4	1.494
6.02.	18:39	-23.7	-0.6	2.136	38 W	1.4	24.1	4.38	0.956	0.19	255.0	1.490
9.02.	18:49	-23.5	-0.6	2.118	39 W	1.4	24.6	4.42	0.954	0.20	256.6	1.486
12.02.	18:58	-23.4	-0.6	2.100	40 W	1.3	25.2	4.46	0.952	0.21	258.3	1.482
15.02.	19:08	-23.2	-0.7	2.082	41 W	1.3	25.8	4.50	0.950	0.22	260.0	1.478
18.02.	19:18	-22.9	-0.7	2.063	41 W	1.3	26.3	4.54	0.948	0.24	261.6	1.474
21.02.	19:27	-22.7	-0.7	2.045	42 W	1.3	26.8	4.58	0.946	0.25	263.3	1.471
24.02.	19:37	-22.3	-0.8	2.026	43 W	1.3	27.4	4.62	0.944	0.26	265.0	1.467
27.02.	19:46	-22.0	-0.8	2.008	44 W	1.3	27.9	4.66	0.942	0.27	266.7	1.463
2.03.	19:56	-21.6	-0.8	1.989	45 W	1.2	28.5	4.71	0.940	0.28	268.4	1.459
5.03.	20:05	-21.2	-0.9	1.971	45 W	1.2	29.0	4.75	0.937	0.30	270.1	1.456
8.03.	20:15	-20.8	-0.9	1.952	46 W	1.2	29.5	4.79	0.935	0.31	271.8	1.452
11.03.	20:24	-20.3	-1.0	1.934	47 W	1.2	30.0	4.84	0.933	0.32	273.5	1.449
14.03.	20:33	-19.8	-1.0	1.915	48 W	1.2	30.5	4.89	0.931	0.34	275.3	1.445
17.03.	20:43	-19.3	-1.0	1.897	48 W	1.2	31.0	4.93	0.928	0.35	277.0	1.442
20.03.	20:52	-18.7	-1.1	1.878	49 W	1.1	31.5	4.98	0.926	0.37	278.8	1.439
23.03.	21:01	-18.1	-1.1	1.860	50 W	1.1	32.0	5.03	0.924	0.38	280.5	1.435
26.03.	21:10	-17.5	-1.1	1.842	51 W	1.1	32.5	5.08	0.922	0.40	282.3	1.432
29.03.	21:19	-16.8	-1.2	1.824	51 W	1.1	33.0	5.13	0.919	0.41	284.1	1.429
1.04.	21:28	-16.2	-1.2	1.806	52 W	1.1	33.5	5.18	0.917	0.43	285.9	1.426
4.04.	21:37	-15.5	-1.2	1.787	53 W	1.1	33.9	5.24	0.915	0.45	287.7	1.423
7.04.	21:46	-14.8	-1.3	1.769	53 W	1.0	34.4	5.29	0.912	0.46	289.5	1.420
10.04.	21:55	-14.0	-1.3	1.752	54 W	1.0	34.9	5.34	0.910	0.48	291.3	1.417
13.04.	22:04	-13.3	-1.3	1.734	55 W	1.0	35.3	5.40	0.908	0.50	293.1	1.414
16.04.	22:12	-12.5	-1.4	1.716	55 W	1.0	35.8	5.45	0.906	0.51	294.9	1.412
19.04.	22:21	-11.7	-1.4	1.699	56 W	1.0	36.2	5.51	0.903	0.53	296.7	1.409
22.04.	22:30	-10.9	-1.4	1.681	57 W	0.9	36.6	5.57	0.901	0.55	298.6	1.407
25.04.	22:38	-10.1	-1.5	1.664	57 W	0.9	37.1	5.63	0.899	0.57	300.4	1.404
28.04.	22:47	-9.3	-1.5	1.646	58 W	0.9	37.5	5.69	0.897	0.59	302.2	1.402



Datum	α	δ	b	Δ (AE)	E	mv	φ	\varnothing	k	q (")	l	r
1.05.	22:56	-8.5	-1.5	1.629	59 W	0.9	37.9	5.75	0.895	0.61	304.1	1.400
4.05.	23:04	-7.6	-1.6	1.612	59 W	0.9	38.3	5.81	0.892	0.63	306.0	1.398
7.05.	23:12	-6.8	-1.6	1.595	60 W	0.8	38.7	5.87	0.890	0.64	307.8	1.396
10.05.	23:21	-5.9	-1.6	1.578	61 W	0.8	39.1	5.93	0.888	0.66	309.7	1.394
13.05.	23:29	-5.0	-1.6	1.562	61 W	0.8	39.5	5.99	0.886	0.68	311.6	1.392
16.05.	23:38	-4.2	-1.7	1.545	62 W	0.8	39.9	6.06	0.884	0.70	313.4	1.391
19.05.	23:46	-3.3	-1.7	1.528	62 W	0.8	40.2	6.12	0.882	0.72	315.3	1.389
22.05.	23:54	-2.4	-1.7	1.512	63 W	0.7	40.6	6.19	0.880	0.74	317.2	1.388
25.05.	0:02	-1.6	-1.7	1.495	64 W	0.7	40.9	6.26	0.878	0.77	319.1	1.387
28.05.	0:11	-0.7	-1.7	1.479	64 W	0.7	41.3	6.33	0.876	0.79	321.0	1.386
31.05.	0:19	0.2	-1.7	1.463	65 W	0.7	41.6	6.40	0.874	0.81	322.9	1.385
3.06.	0:27	1.0	-1.8	1.447	66 W	0.7	41.9	6.47	0.872	0.83	324.8	1.384
6.06.	0:35	1.9	-1.8	1.431	66 W	0.6	42.2	6.54	0.870	0.85	326.7	1.383
9.06.	0:43	2.8	-1.8	1.415	67 W	0.6	42.5	6.62	0.868	0.87	328.6	1.382
12.06.	0:51	3.6	-1.8	1.399	68 W	0.6	42.8	6.69	0.867	0.89	330.5	1.382
15.06.	0:59	4.4	-1.8	1.383	68 W	0.6	43.1	6.77	0.865	0.91	332.4	1.382
18.06.	1:08	5.3	-1.8	1.367	69 W	0.6	43.4	6.85	0.863	0.94	334.3	1.381
21.06.	1:16	6.1	-1.8	1.351	70 W	0.5	43.7	6.93	0.862	0.96	336.2	1.381
24.06.	1:24	6.9	-1.8	1.335	70 W	0.5	43.9	7.01	0.860	0.98	338.1	1.381
27.06.	1:32	7.7	-1.8	1.319	71 W	0.5	44.1	7.10	0.859	1.00	340.0	1.382
30.06.	1:40	8.5	-1.8	1.303	72 W	0.5	44.4	7.18	0.857	1.02	341.9	1.382
3.07.	1:48	9.2	-1.8	1.287	73 W	0.4	44.6	7.27	0.856	1.05	343.8	1.382
6.07.	1:56	10.0	-1.8	1.271	73 W	0.4	44.8	7.36	0.855	1.07	345.7	1.383
9.07.	2:04	10.7	-1.8	1.256	74 W	0.4	45.0	7.46	0.854	1.09	347.6	1.384
12.07.	2:12	11.4	-1.8	1.240	75 W	0.4	45.2	7.55	0.852	1.11	349.5	1.384
15.07.	2:20	12.1	-1.8	1.224	76 W	0.4	45.3	7.65	0.851	1.14	351.4	1.385
18.07.	2:27	12.8	-1.8	1.208	77 W	0.3	45.5	7.75	0.851	1.16	353.3	1.386
21.07.	2:35	13.4	-1.8	1.192	77 W	0.3	45.6	7.85	0.850	1.18	355.2	1.388
24.07.	2:43	14.0	-1.7	1.176	78 W	0.3	45.7	7.96	0.849	1.20	357.1	1.389
27.07.	2:51	14.6	-1.7	1.159	79 W	0.3	45.8	8.07	0.848	1.22	359.0	1.390
30.07.	2:59	15.2	-1.7	1.143	80 W	0.2	45.9	8.19	0.848	1.25	0.8	1.392
2.08.	3:06	15.8	-1.7	1.127	81 W	0.2	46.0	8.31	0.847	1.27	2.7	1.394
5.08.	3:14	16.3	-1.6	1.110	82 W	0.2	46.0	8.43	0.847	1.29	4.6	1.395
8.08.	3:22	16.8	-1.6	1.094	83 W	0.1	46.1	8.56	0.847	1.31	6.4	1.397
11.08.	3:29	17.3	-1.6	1.077	84 W	0.1	46.1	8.69	0.847	1.33	8.3	1.399
14.08.	3:37	17.8	-1.6	1.061	85 W	0.1	46.1	8.82	0.847	1.35	10.2	1.401
17.08.	3:44	18.2	-1.5	1.044	86 W	0.0	46.0	8.96	0.847	1.37	12.0	1.404
20.08.	3:51	18.7	-1.5	1.027	87 W	0.0	46.0	9.11	0.848	1.39	13.8	1.406
23.08.	3:59	19.1	-1.4	1.010	88 W	0.0	45.9	9.26	0.848	1.41	15.7	1.408
26.08.	4:06	19.4	-1.4	0.993	89 W	-0.1	45.8	9.42	0.849	1.42	17.5	1.411
29.08.	4:13	19.8	-1.4	0.976	91 W	-0.1	45.6	9.59	0.850	1.44	19.3	1.414



Datum	α	δ	b	Δ (AE)	E	mv	φ	\emptyset	k	q (")	l	r
1.09.	4:19	20.1	-1.3	0.959	92 W	-0.1	45.4	9.76	0.851	1.45	21.1	1.416
4.09.	4:26	20.4	-1.3	0.942	93 W	-0.2	45.2	9.94	0.852	1.47	23.0	1.419
7.09.	4:32	20.7	-1.2	0.924	95 W	-0.2	44.9	10.13	0.854	1.48	24.8	1.422
10.09.	4:39	21.0	-1.1	0.907	96 W	-0.2	44.7	10.32	0.856	1.49	26.5	1.425
13.09.	4:45	21.2	-1.1	0.889	98 W	-0.3	44.3	10.52	0.858	1.50	28.3	1.428
16.09.	4:51	21.5	-1.0	0.872	99 W	-0.3	43.9	10.74	0.860	1.50	30.1	1.431
19.09.	4:56	21.7	-1.0	0.854	101 W	-0.4	43.5	10.96	0.863	1.51	31.9	1.434
22.09.	5:02	21.9	-0.9	0.837	102 W	-0.4	43.0	11.19	0.866	1.50	33.6	1.438
25.09.	5:07	22.1	-0.8	0.819	104 W	-0.5	42.5	11.42	0.869	1.50	35.4	1.441
28.09.	5:12	22.3	-0.7	0.802	106 W	-0.5	41.9	11.67	0.872	1.49	37.1	1.444
1.10.	5:17	22.4	-0.6	0.784	108 W	-0.6	41.2	11.93	0.876	1.48	38.9	1.448
4.10.	5:21	22.6	-0.6	0.767	110 W	-0.6	40.5	12.20	0.880	1.46	40.6	1.451
7.10.	5:25	22.7	-0.5	0.750	112 W	-0.7	39.7	12.48	0.885	1.44	42.3	1.455
10.10.	5:28	22.9	-0.4	0.733	114 W	-0.8	38.8	12.77	0.890	1.41	44.0	1.458
13.10.	5:31	23.0	-0.3	0.716	116 W	-0.8	37.8	13.07	0.895	1.37	45.7	1.462
16.10.	5:34	23.2	-0.2	0.700	118 W	-0.9	36.7	13.37	0.901	1.33	47.4	1.466
19.10.	5:36	23.3	0.0	0.684	121 W	-0.9	35.6	13.69	0.907	1.28	49.1	1.469
22.10.	5:38	23.4	0.1	0.668	123 W	-1.0	34.3	14.01	0.913	1.22	50.8	1.473
25.10.	5:39	23.6	0.2	0.653	126 W	-1.1	32.9	14.33	0.920	1.15	52.5	1.477
28.10.	5:40	23.7	0.3	0.638	129 W	-1.1	31.5	14.66	0.927	1.08	54.1	1.481
31.10.	5:40	23.8	0.5	0.624	132 W	-1.2	29.8	14.99	0.934	0.99	55.8	1.485
3.11.	5:40	24.0	0.6	0.611	135 W	-1.3	28.1	15.31	0.941	0.90	57.4	1.489
6.11.	5:39	24.1	0.7	0.599	138 W	-1.3	26.3	15.62	0.948	0.81	59.1	1.492
9.11.	5:38	24.2	0.9	0.588	142 W	-1.4	24.3	15.93	0.956	0.71	60.7	1.496
12.11.	5:35	24.4	1.0	0.578	145 W	-1.5	22.2	16.21	0.963	0.60	62.3	1.500
15.11.	5:33	24.5	1.2	0.568	149 W	-1.5	20.0	16.47	0.970	0.50	63.9	1.504
18.11.	5:29	24.6	1.4	0.561	152 W	-1.6	17.7	16.69	0.976	0.39	65.5	1.508
21.11.	5:26	24.7	1.5	0.554	156 W	-1.7	15.2	16.88	0.982	0.30	67.1	1.512
24.11.	5:22	24.8	1.7	0.550	160 W	-1.7	12.7	17.03	0.988	0.21	68.7	1.516
27.11.	5:17	24.9	1.8	0.546	164 W	-1.8	10.1	17.13	0.992	0.13	70.3	1.520
30.11.	5:12	24.9	1.9	0.545	168 W	-1.8	7.5	17.18	0.996	0.07	71.8	1.524
3.12.	5:07	25.0	2.1	0.545	172 W	-1.8	4.9	17.18	0.998	0.03	73.4	1.528
6.12.	5:02	25.0	2.2	0.547	176 W	-1.9	2.5	17.11	1.000	0.01	75.0	1.532
9.12.	4:57	25.0	2.3	0.551	177 O	-1.9	1.6	16.99	1.000	0.00	76.5	1.535
12.12.	4:52	25.0	2.4	0.556	174 O	-1.8	3.7	16.82	0.999	0.02	78.0	1.539
15.12.	4:47	24.9	2.5	0.564	170 O	-1.7	6.2	16.60	0.997	0.05	79.6	1.543
18.12.	4:42	24.9	2.6	0.573	166 O	-1.6	8.7	16.33	0.994	0.09	81.1	1.547
21.12.	4:38	24.8	2.7	0.584	162 O	-1.6	11.1	16.02	0.991	0.15	82.6	1.551
24.12.	4:35	24.8	2.7	0.597	158 O	-1.5	13.4	15.68	0.986	0.21	84.1	1.554
27.12.	4:31	24.7	2.8	0.611	155 O	-1.4	15.6	15.31	0.981	0.28	85.6	1.558
30.12.	4:29	24.6	2.8	0.627	151 O	-1.3	17.8	14.92	0.976	0.36	87.1	1.562

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.