



Ephemeriden für Sternfreunde
von Karl-Heinz Bücke

www.buecke-info.de

Mars 2021

Datum	α	δ	b	Δ (AE)	E	mv	φ	\varnothing	k	q (")	l	r
1.01.	1:40	11.4	0.9	0.898	107 O	-0.2	38.6	10.42	0.891	1.14	66.0	1.509
4.01.	1:45	11.9	0.9	0.926	105 O	-0.2	38.9	10.11	0.889	1.12	67.6	1.513
7.01.	1:50	12.4	1.0	0.953	103 O	-0.1	39.1	9.82	0.888	1.10	69.2	1.517
10.01.	1:55	12.9	1.0	0.981	101 O	0.0	39.3	9.54	0.887	1.08	70.8	1.521
13.01.	2:01	13.5	1.1	1.009	100 O	0.0	39.4	9.27	0.886	1.06	72.3	1.525
16.01.	2:06	14.0	1.1	1.038	98 O	0.1	39.5	9.02	0.886	1.03	73.9	1.529
19.01.	2:12	14.5	1.2	1.066	97 O	0.2	39.6	8.78	0.885	1.01	75.4	1.533
22.01.	2:18	15.1	1.2	1.095	95 O	0.2	39.6	8.55	0.885	0.98	77.0	1.537
25.01.	2:24	15.6	1.2	1.124	94 O	0.3	39.6	8.33	0.885	0.96	78.5	1.541
28.01.	2:30	16.1	1.3	1.153	92 O	0.4	39.6	8.12	0.885	0.93	80.0	1.544
31.01.	2:36	16.7	1.3	1.182	91 O	0.4	39.5	7.92	0.886	0.91	81.6	1.548
3.02.	2:43	17.2	1.3	1.212	89 O	0.5	39.4	7.73	0.886	0.88	83.1	1.552
6.02.	2:49	17.7	1.3	1.241	88 O	0.5	39.3	7.54	0.887	0.85	84.6	1.556
9.02.	2:56	18.2	1.3	1.270	86 O	0.6	39.2	7.37	0.888	0.83	86.1	1.559
12.02.	3:02	18.7	1.4	1.300	85 O	0.6	39.0	7.20	0.889	0.80	87.6	1.563
15.02.	3:09	19.1	1.4	1.329	84 O	0.7	38.8	7.04	0.890	0.78	89.0	1.567
18.02.	3:16	19.6	1.4	1.359	82 O	0.7	38.6	6.89	0.891	0.75	90.5	1.570
21.02.	3:23	20.0	1.4	1.388	81 O	0.8	38.4	6.74	0.892	0.73	92.0	1.574
24.02.	3:30	20.5	1.4	1.417	80 O	0.8	38.1	6.60	0.893	0.70	93.5	1.577
27.02.	3:37	20.9	1.4	1.447	78 O	0.9	37.9	6.47	0.895	0.68	94.9	1.581
2.03.	3:44	21.3	1.4	1.476	77 O	0.9	37.6	6.34	0.896	0.66	96.4	1.584
5.03.	3:52	21.7	1.5	1.505	76 O	1.0	37.3	6.22	0.898	0.64	97.8	1.588
8.03.	3:59	22.0	1.5	1.534	75 O	1.0	37.0	6.10	0.899	0.61	99.2	1.591
11.03.	4:06	22.4	1.5	1.563	73 O	1.0	36.7	5.99	0.901	0.59	100.7	1.594
14.03.	4:14	22.7	1.5	1.592	72 O	1.1	36.3	5.88	0.903	0.57	102.1	1.597
17.03.	4:21	23.0	1.5	1.621	71 O	1.1	36.0	5.78	0.905	0.55	103.5	1.601
20.03.	4:29	23.3	1.5	1.649	70 O	1.2	35.6	5.68	0.906	0.53	104.9	1.604
23.03.	4:37	23.6	1.5	1.677	69 O	1.2	35.3	5.58	0.908	0.51	106.4	1.607
26.03.	4:44	23.8	1.5	1.705	67 O	1.2	34.9	5.49	0.910	0.49	107.8	1.610
29.03.	4:52	24.0	1.5	1.733	66 O	1.3	34.5	5.40	0.912	0.47	109.2	1.613
1.04.	5:00	24.2	1.5	1.761	65 O	1.3	34.1	5.32	0.914	0.46	110.6	1.615
4.04.	5:08	24.4	1.5	1.788	64 O	1.3	33.7	5.24	0.916	0.44	111.9	1.618
7.04.	5:16	24.5	1.5	1.815	63 O	1.4	33.3	5.16	0.918	0.42	113.3	1.621
10.04.	5:24	24.7	1.5	1.842	62 O	1.4	32.8	5.08	0.920	0.41	114.7	1.624
13.04.	5:32	24.8	1.5	1.868	60 O	1.4	32.4	5.01	0.922	0.39	116.1	1.626
16.04.	5:40	24.8	1.5	1.895	59 O	1.4	32.0	4.94	0.924	0.37	117.5	1.629
19.04.	5:48	24.9	1.5	1.920	58 O	1.5	31.5	4.87	0.926	0.36	118.8	1.631
22.04.	5:56	24.9	1.5	1.946	57 O	1.5	31.1	4.81	0.928	0.35	120.2	1.633
25.04.	6:04	24.9	1.5	1.971	56 O	1.5	30.6	4.75	0.930	0.33	121.6	1.636
28.04.	6:12	24.9	1.5	1.996	55 O	1.5	30.2	4.69	0.932	0.32	122.9	1.638



Datum	α	δ	b	Δ (AE)	E	mv	φ	\varnothing	k	q (")	l	r
1.05.	6:20	24.8	1.4	2.021	54 O	1.6	29.7	4.63	0.934	0.30	124.3	1.640
4.05.	6:28	24.7	1.4	2.045	53 O	1.6	29.2	4.58	0.936	0.29	125.6	1.642
7.05.	6:36	24.6	1.4	2.069	52 O	1.6	28.7	4.52	0.938	0.28	127.0	1.644
10.05.	6:44	24.5	1.4	2.092	50 O	1.6	28.2	4.47	0.940	0.27	128.3	1.646
13.05.	6:52	24.3	1.4	2.115	49 O	1.6	27.8	4.42	0.942	0.25	129.7	1.648
16.05.	7:00	24.1	1.4	2.138	48 O	1.7	27.3	4.38	0.944	0.24	131.0	1.649
19.05.	7:08	23.9	1.4	2.160	47 O	1.7	26.8	4.33	0.946	0.23	132.3	1.651
22.05.	7:16	23.7	1.4	2.182	46 O	1.7	26.3	4.29	0.948	0.22	133.7	1.653
25.05.	7:24	23.4	1.4	2.203	45 O	1.7	25.8	4.25	0.950	0.21	135.0	1.654
28.05.	7:32	23.1	1.4	2.224	44 O	1.7	25.2	4.21	0.952	0.20	136.3	1.656
31.05.	7:39	22.8	1.4	2.245	43 O	1.7	24.7	4.17	0.954	0.19	137.6	1.657
3.06.	7:47	22.5	1.4	2.265	42 O	1.7	24.2	4.13	0.956	0.18	139.0	1.658
6.06.	7:55	22.2	1.3	2.284	41 O	1.8	23.7	4.10	0.958	0.17	140.3	1.659
9.06.	8:03	21.8	1.3	2.303	40 O	1.8	23.2	4.06	0.960	0.16	141.6	1.660
12.06.	8:11	21.4	1.3	2.322	39 O	1.8	22.6	4.03	0.961	0.16	142.9	1.661
15.06.	8:18	21.0	1.3	2.340	38 O	1.8	22.1	4.00	0.963	0.15	144.2	1.662
18.06.	8:26	20.5	1.3	2.358	37 O	1.8	21.6	3.97	0.965	0.14	145.6	1.663
21.06.	8:34	20.1	1.3	2.375	36 O	1.8	21.0	3.94	0.967	0.13	146.9	1.664
24.06.	8:41	19.6	1.3	2.392	35 O	1.8	20.5	3.91	0.968	0.12	148.2	1.664
27.06.	8:49	19.1	1.3	2.408	34 O	1.8	20.0	3.89	0.970	0.12	149.5	1.665
30.06.	8:56	18.6	1.2	2.424	33 O	1.8	19.4	3.86	0.972	0.11	150.8	1.665
3.07.	9:04	18.0	1.2	2.439	32 O	1.8	18.9	3.84	0.973	0.10	152.1	1.666
6.07.	9:11	17.5	1.2	2.453	31 O	1.8	18.3	3.82	0.975	0.10	153.4	1.666
9.07.	9:19	16.9	1.2	2.467	30 O	1.8	17.8	3.79	0.976	0.09	154.7	1.666
12.07.	9:26	16.3	1.2	2.481	29 O	1.8	17.2	3.77	0.978	0.08	156.0	1.666
15.07.	9:34	15.7	1.2	2.494	28 O	1.8	16.6	3.75	0.979	0.08	157.4	1.666
18.07.	9:41	15.1	1.2	2.506	27 O	1.8	16.1	3.73	0.980	0.07	158.7	1.666
21.07.	9:48	14.4	1.1	2.518	26 O	1.8	15.5	3.72	0.982	0.07	160.0	1.666
24.07.	9:55	13.8	1.1	2.530	25 O	1.8	15.0	3.70	0.983	0.06	161.3	1.665
27.07.	10:03	13.1	1.1	2.540	24 O	1.8	14.4	3.68	0.984	0.06	162.6	1.665
30.07.	10:10	12.5	1.1	2.551	23 O	1.8	13.8	3.67	0.986	0.05	163.9	1.665
2.08.	10:17	11.8	1.1	2.560	22 O	1.8	13.2	3.66	0.987	0.05	165.2	1.664
5.08.	10:24	11.1	1.1	2.569	21 O	1.8	12.7	3.64	0.988	0.04	166.5	1.663
8.08.	10:31	10.4	1.1	2.578	20 O	1.8	12.1	3.63	0.989	0.04	167.8	1.663
11.08.	10:38	9.7	1.0	2.586	19 O	1.8	11.5	3.62	0.990	0.04	169.2	1.662
14.08.	10:46	8.9	1.0	2.593	18 O	1.8	10.9	3.61	0.991	0.03	170.5	1.661
17.08.	10:53	8.2	1.0	2.600	17 O	1.8	10.4	3.60	0.992	0.03	171.8	1.660
20.08.	11:00	7.4	1.0	2.607	16 O	1.8	9.8	3.59	0.993	0.03	173.1	1.659
23.08.	11:07	6.7	1.0	2.612	15 O	1.8	9.2	3.58	0.994	0.02	174.4	1.658
26.08.	11:14	5.9	0.9	2.618	14 O	1.8	8.6	3.58	0.994	0.02	175.8	1.656
29.08.	11:21	5.2	0.9	2.622	13 O	1.8	8.0	3.57	0.995	0.02	177.1	1.655



Datum	α	δ	b	Δ (AE)	E	mv	φ	\emptyset	k	q (")	l	r
1.09.	11:28	4.4	0.9	2.626	12 O	1.8	7.4	3.56	0.996	0.01	178.4	1.654
4.09.	11:35	3.6	0.9	2.630	11 O	1.8	6.8	3.56	0.996	0.01	179.7	1.652
7.09.	11:42	2.8	0.9	2.632	10 O	1.8	6.3	3.56	0.997	0.01	181.1	1.651
10.09.	11:49	2.1	0.9	2.635	9 O	1.8	5.7	3.55	0.998	0.01	182.4	1.649
13.09.	11:56	1.3	0.8	2.636	8 O	1.7	5.1	3.55	0.998	0.01	183.8	1.647
16.09.	12:03	0.5	0.8	2.637	7 O	1.7	4.5	3.55	0.998	0.01	185.1	1.645
19.09.	12:10	-0.3	0.8	2.638	6 O	1.7	3.9	3.55	0.999	0.00	186.4	1.643
22.09.	12:17	-1.1	0.8	2.638	5 O	1.7	3.3	3.55	0.999	0.00	187.8	1.641
25.09.	12:25	-1.9	0.7	2.637	4 O	1.7	2.7	3.55	0.999	0.00	189.1	1.639
28.09.	12:32	-2.7	0.7	2.636	3 O	1.7	2.1	3.55	1.000	0.00	190.5	1.637
1.10.	12:39	-3.5	0.7	2.635	2 O	1.7	1.5	3.55	1.000	0.00	191.9	1.635
4.10.	12:46	-4.3	0.7	2.632	2 O	1.7	0.9	3.56	1.000	0.00	193.2	1.633
7.10.	12:53	-5.0	0.7	2.630	1 O	1.6	0.5	3.56	1.000	0.00	194.6	1.630
10.10.	13:01	-5.8	0.6	2.626	1 W	1.6	0.5	3.56	1.000	0.00	196.0	1.628
13.10.	13:08	-6.6	0.6	2.622	2 W	1.6	1.0	3.57	1.000	0.00	197.3	1.625
16.10.	13:15	-7.4	0.6	2.618	3 W	1.6	1.6	3.58	1.000	0.00	198.7	1.623
19.10.	13:23	-8.1	0.6	2.613	4 W	1.6	2.2	3.58	1.000	0.00	200.1	1.620
22.10.	13:30	-8.9	0.5	2.607	5 W	1.6	2.8	3.59	0.999	0.00	201.5	1.617
25.10.	13:38	-9.7	0.5	2.601	6 W	1.7	3.4	3.60	0.999	0.00	202.9	1.614
28.10.	13:45	-10.4	0.5	2.595	7 W	1.7	4.0	3.61	0.999	0.00	204.3	1.612
31.10.	13:53	-11.1	0.5	2.588	8 W	1.7	4.6	3.62	0.998	0.01	205.7	1.609
3.11.	14:01	-11.9	0.4	2.580	9 W	1.7	5.2	3.63	0.998	0.01	207.1	1.606
6.11.	14:08	-12.6	0.4	2.572	9 W	1.6	5.8	3.64	0.997	0.01	208.5	1.603
9.11.	14:16	-13.3	0.4	2.563	10 W	1.6	6.5	3.65	0.997	0.01	209.9	1.599
12.11.	14:24	-14.0	0.4	2.554	11 W	1.6	7.1	3.66	0.996	0.01	211.3	1.596
15.11.	14:32	-14.6	0.3	2.545	12 W	1.6	7.7	3.68	0.996	0.02	212.8	1.593
18.11.	14:40	-15.3	0.3	2.535	13 W	1.6	8.3	3.69	0.995	0.02	214.2	1.590
21.11.	14:48	-15.9	0.3	2.524	14 W	1.6	8.9	3.71	0.994	0.02	215.6	1.586
24.11.	14:56	-16.5	0.3	2.513	15 W	1.6	9.5	3.72	0.993	0.03	217.1	1.583
27.11.	15:04	-17.2	0.2	2.502	16 W	1.6	10.1	3.74	0.992	0.03	218.5	1.580
30.11.	15:13	-17.7	0.2	2.490	17 W	1.6	10.7	3.76	0.991	0.03	220.0	1.576
3.12.	15:21	-18.3	0.2	2.478	18 W	1.6	11.3	3.78	0.990	0.04	221.4	1.573
6.12.	15:30	-18.8	0.1	2.465	19 W	1.6	11.9	3.80	0.989	0.04	222.9	1.569
9.12.	15:38	-19.4	0.1	2.452	20 W	1.6	12.5	3.82	0.988	0.05	224.4	1.565
12.12.	15:47	-19.9	0.1	2.439	21 W	1.6	13.1	3.84	0.987	0.05	225.9	1.562
15.12.	15:56	-20.3	0.0	2.425	22 W	1.6	13.7	3.86	0.986	0.06	227.4	1.558
18.12.	16:04	-20.8	0.0	2.411	23 W	1.6	14.4	3.88	0.984	0.06	228.9	1.554
21.12.	16:13	-21.2	0.0	2.397	24 W	1.6	15.0	3.91	0.983	0.07	230.4	1.551
24.12.	16:22	-21.6	0.0	2.382	25 W	1.6	15.6	3.93	0.982	0.07	231.9	1.547
27.12.	16:31	-22.0	-0.1	2.367	26 W	1.6	16.2	3.95	0.980	0.08	233.4	1.543
30.12.	16:40	-22.3	-0.1	2.352	27 W	1.5	16.7	3.98	0.979	0.08	234.9	1.539

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.