



Ephemeriden für Sternfreunde
von Karl-Heinz Bücke

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Mars 2015

Datum	α	δ	b	Δ (AE)	E	mv	φ	\varnothing	k	q (")	l	r
1.01.	21:35	-15.6	-1.1	1.970	41 O	1.1	27.7	4.75	0.943	0.27	348.7	1.384
4.01.	21:44	-14.8	-1.1	1.983	40 O	1.1	27.2	4.72	0.945	0.26	350.6	1.385
7.01.	21:53	-14.0	-1.1	1.997	39 O	1.1	26.8	4.69	0.946	0.25	352.5	1.386
10.01.	22:02	-13.1	-1.0	2.011	39 O	1.1	26.3	4.65	0.948	0.24	354.4	1.387
13.01.	22:11	-12.3	-1.0	2.025	38 O	1.1	25.9	4.62	0.950	0.23	356.3	1.388
16.01.	22:20	-11.4	-1.0	2.038	37 O	1.1	25.4	4.59	0.952	0.22	358.2	1.390
19.01.	22:29	-10.5	-1.0	2.052	37 O	1.2	24.9	4.56	0.953	0.21	0.1	1.391
22.01.	22:38	-9.6	-0.9	2.066	36 O	1.2	24.5	4.53	0.955	0.20	1.9	1.393
25.01.	22:46	-8.7	-0.9	2.079	35 O	1.2	24.0	4.50	0.957	0.19	3.8	1.395
28.01.	22:55	-7.8	-0.9	2.093	34 O	1.2	23.5	4.47	0.959	0.19	5.7	1.397
31.01.	23:04	-6.9	-0.8	2.106	34 O	1.2	23.0	4.44	0.960	0.18	7.5	1.399
3.02.	23:12	-5.9	-0.8	2.120	33 O	1.2	22.5	4.42	0.962	0.17	9.4	1.401
6.02.	23:21	-5.0	-0.8	2.133	32 O	1.2	22.1	4.39	0.963	0.16	11.2	1.403
9.02.	23:29	-4.0	-0.7	2.147	32 O	1.2	21.6	4.36	0.965	0.15	13.1	1.405
12.02.	23:38	-3.1	-0.7	2.160	31 O	1.2	21.1	4.33	0.966	0.15	14.9	1.408
15.02.	23:46	-2.1	-0.7	2.174	30 O	1.2	20.6	4.31	0.968	0.14	16.7	1.410
18.02.	23:55	-1.2	-0.6	2.187	29 O	1.3	20.1	4.28	0.969	0.13	18.6	1.413
21.02.	0:03	-0.2	-0.6	2.200	29 O	1.3	19.6	4.25	0.971	0.12	20.4	1.415
24.02.	0:12	0.7	-0.5	2.213	28 O	1.3	19.1	4.23	0.972	0.12	22.2	1.418
27.02.	0:20	1.7	-0.5	2.226	27 O	1.3	18.6	4.20	0.974	0.11	24.0	1.421
2.03.	0:28	2.6	-0.5	2.239	27 O	1.3	18.1	4.18	0.975	0.10	25.8	1.424
5.03.	0:37	3.5	-0.4	2.252	26 O	1.3	17.6	4.16	0.976	0.10	27.6	1.427
8.03.	0:45	4.5	-0.4	2.265	25 O	1.3	17.1	4.13	0.978	0.09	29.4	1.430
11.03.	0:53	5.4	-0.4	2.278	24 O	1.3	16.6	4.11	0.979	0.09	31.1	1.433
14.03.	1:02	6.3	-0.3	2.290	24 O	1.3	16.1	4.09	0.980	0.08	32.9	1.436
17.03.	1:10	7.2	-0.3	2.302	23 O	1.3	15.6	4.07	0.981	0.08	34.7	1.440
20.03.	1:19	8.1	-0.3	2.315	22 O	1.3	15.1	4.04	0.983	0.07	36.4	1.443
23.03.	1:27	8.9	-0.2	2.327	21 O	1.3	14.6	4.02	0.984	0.07	38.2	1.447
26.03.	1:35	9.8	-0.2	2.339	21 O	1.4	14.1	4.00	0.985	0.06	39.9	1.450
29.03.	1:44	10.6	-0.2	2.351	20 O	1.4	13.6	3.98	0.986	0.06	41.6	1.454
1.04.	1:52	11.4	-0.1	2.362	19 O	1.4	13.1	3.96	0.987	0.05	43.3	1.457
4.04.	2:01	12.2	-0.1	2.374	19 O	1.4	12.6	3.94	0.988	0.05	45.0	1.461
7.04.	2:09	13.0	-0.1	2.385	18 O	1.4	12.1	3.92	0.989	0.04	46.7	1.464
10.04.	2:18	13.8	0.0	2.396	17 O	1.4	11.5	3.91	0.990	0.04	48.4	1.468
13.04.	2:26	14.5	0.0	2.407	16 O	1.4	11.0	3.89	0.991	0.04	50.1	1.472
16.04.	2:35	15.2	0.0	2.418	16 O	1.4	10.5	3.87	0.992	0.03	51.8	1.476
19.04.	2:43	15.9	0.1	2.428	15 O	1.4	10.0	3.86	0.992	0.03	53.4	1.480
22.04.	2:52	16.6	0.1	2.438	14 O	1.4	9.5	3.84	0.993	0.03	55.1	1.483
25.04.	3:01	17.3	0.1	2.448	13 O	1.4	9.0	3.82	0.994	0.02	56.7	1.487
28.04.	3:09	17.9	0.2	2.458	13 O	1.4	8.4	3.81	0.995	0.02	58.4	1.491



Datum	α	δ	b	Δ (AE)	E	mv	φ	\emptyset	k	q (")	l	r
1.05.	3:18	18.5	0.2	2.467	12 O	1.4	7.9	3.79	0.995	0.02	60.0	1.495
4.05.	3:27	19.1	0.2	2.476	11 O	1.4	7.4	3.78	0.996	0.02	61.6	1.499
7.05.	3:36	19.6	0.3	2.485	10 O	1.5	6.9	3.77	0.996	0.01	63.2	1.503
10.05.	3:44	20.1	0.3	2.493	9 O	1.5	6.3	3.75	0.997	0.01	64.8	1.507
13.05.	3:53	20.6	0.3	2.502	9 O	1.5	5.8	3.74	0.997	0.01	66.4	1.511
16.05.	4:02	21.0	0.4	2.509	8 O	1.5	5.3	3.73	0.998	0.01	68.0	1.515
19.05.	4:11	21.5	0.4	2.517	7 O	1.5	4.8	3.72	0.998	0.01	69.6	1.519
22.05.	4:20	21.9	0.4	2.524	6 O	1.5	4.2	3.71	0.999	0.01	71.2	1.522
25.05.	4:29	22.2	0.4	2.531	6 O	1.5	3.7	3.70	0.999	0.00	72.7	1.526
28.05.	4:38	22.6	0.5	2.538	5 O	1.5	3.2	3.69	0.999	0.00	74.3	1.530
31.05.	4:46	22.9	0.5	2.544	4 O	1.5	2.6	3.68	0.999	0.00	75.8	1.534
3.06.	4:55	23.1	0.5	2.550	3 O	1.5	2.1	3.67	1.000	0.00	77.4	1.538
6.06.	5:04	23.4	0.5	2.555	2 O	1.5	1.6	3.66	1.000	0.00	78.9	1.542
9.06.	5:13	23.6	0.6	2.560	2 O	1.5	1.1	3.66	1.000	0.00	80.4	1.546
12.06.	5:22	23.8	0.6	2.565	1 O	1.5	0.6	3.65	1.000	0.00	81.9	1.549
15.06.	5:31	23.9	0.6	2.569	1 W	1.5	0.4	3.64	1.000	0.00	83.5	1.553
18.06.	5:40	24.0	0.6	2.573	1 W	1.5	0.7	3.64	1.000	0.00	85.0	1.557
21.06.	5:49	24.1	0.7	2.576	2 W	1.5	1.2	3.63	1.000	0.00	86.5	1.561
24.06.	5:58	24.1	0.7	2.579	3 W	1.5	1.7	3.63	1.000	0.00	87.9	1.564
27.06.	6:07	24.1	0.7	2.581	3 W	1.6	2.3	3.63	1.000	0.00	89.4	1.568
30.06.	6:16	24.1	0.7	2.583	4 W	1.6	2.8	3.62	0.999	0.00	90.9	1.571
3.07.	6:24	24.1	0.8	2.585	5 W	1.6	3.3	3.62	0.999	0.00	92.4	1.575
6.07.	6:33	24.0	0.8	2.586	6 W	1.6	3.9	3.62	0.999	0.00	93.8	1.579
9.07.	6:42	23.9	0.8	2.587	7 W	1.6	4.4	3.62	0.999	0.01	95.3	1.582
12.07.	6:51	23.7	0.8	2.587	8 W	1.6	5.0	3.62	0.998	0.01	96.7	1.585
15.07.	6:59	23.6	0.9	2.586	9 W	1.6	5.5	3.62	0.998	0.01	98.2	1.589
18.07.	7:08	23.4	0.9	2.586	9 W	1.6	6.0	3.62	0.997	0.01	99.6	1.592
21.07.	7:16	23.2	0.9	2.584	10 W	1.7	6.6	3.62	0.997	0.01	101.0	1.595
24.07.	7:25	22.9	0.9	2.582	11 W	1.7	7.1	3.62	0.996	0.01	102.5	1.598
27.07.	7:33	22.6	0.9	2.580	12 W	1.7	7.7	3.63	0.996	0.02	103.9	1.602
30.07.	7:42	22.3	1.0	2.577	13 W	1.7	8.2	3.63	0.995	0.02	105.3	1.605
2.08.	7:50	22.0	1.0	2.574	14 W	1.7	8.8	3.64	0.994	0.02	106.7	1.608
5.08.	7:58	21.6	1.0	2.570	15 W	1.7	9.3	3.64	0.993	0.02	108.1	1.611
8.08.	8:06	21.3	1.0	2.565	16 W	1.7	9.9	3.65	0.993	0.03	109.5	1.614
11.08.	8:15	20.9	1.0	2.560	17 W	1.7	10.4	3.66	0.992	0.03	110.9	1.616
14.08.	8:23	20.4	1.0	2.555	18 W	1.7	11.0	3.66	0.991	0.03	112.3	1.619
17.08.	8:31	20.0	1.1	2.549	19 W	1.7	11.5	3.67	0.990	0.04	113.7	1.622
20.08.	8:39	19.5	1.1	2.542	20 W	1.8	12.1	3.68	0.989	0.04	115.1	1.624
23.08.	8:47	19.0	1.1	2.535	21 W	1.8	12.6	3.69	0.988	0.04	116.4	1.627
26.08.	8:54	18.5	1.1	2.527	22 W	1.8	13.2	3.70	0.987	0.05	117.8	1.629
29.08.	9:02	18.0	1.1	2.518	23 W	1.8	13.7	3.72	0.986	0.05	119.2	1.632



Datum	α	δ	b	Δ (AE)	E	mv	φ	\emptyset	k	q (")	l	r
1.09.	9:10	17.5	1.1	2.510	23 W	1.8	14.3	3.73	0.985	0.06	120.5	1.634
4.09.	9:18	16.9	1.2	2.500	24 W	1.8	14.8	3.74	0.983	0.06	121.9	1.636
7.09.	9:25	16.4	1.2	2.490	25 W	1.8	15.4	3.76	0.982	0.07	123.3	1.639
10.09.	9:33	15.8	1.2	2.479	27 W	1.8	15.9	3.78	0.981	0.07	124.6	1.641
13.09.	9:40	15.2	1.2	2.468	28 W	1.8	16.4	3.79	0.980	0.08	126.0	1.643
16.09.	9:48	14.6	1.2	2.456	29 W	1.8	17.0	3.81	0.978	0.08	127.3	1.645
19.09.	9:55	13.9	1.2	2.444	30 W	1.8	17.5	3.83	0.977	0.09	128.6	1.647
22.09.	10:02	13.3	1.2	2.431	31 W	1.8	18.1	3.85	0.975	0.10	130.0	1.648
25.09.	10:09	12.7	1.2	2.417	32 W	1.8	18.6	3.87	0.974	0.10	131.3	1.650
28.09.	10:17	12.0	1.3	2.403	33 W	1.8	19.2	3.90	0.972	0.11	132.7	1.652
1.10.	10:24	11.3	1.3	2.388	34 W	1.8	19.7	3.92	0.971	0.11	134.0	1.653
4.10.	10:31	10.7	1.3	2.373	35 W	1.8	20.2	3.94	0.969	0.12	135.3	1.655
7.10.	10:38	10.0	1.3	2.357	36 W	1.8	20.8	3.97	0.967	0.13	136.6	1.656
10.10.	10:45	9.3	1.3	2.341	37 W	1.8	21.3	4.00	0.966	0.14	138.0	1.657
13.10.	10:52	8.6	1.3	2.324	38 W	1.8	21.8	4.03	0.964	0.14	139.3	1.658
16.10.	10:59	7.9	1.3	2.306	39 W	1.8	22.4	4.06	0.962	0.15	140.6	1.660
19.10.	11:06	7.2	1.3	2.288	40 W	1.7	22.9	4.09	0.961	0.16	141.9	1.661
22.10.	11:13	6.5	1.4	2.269	42 W	1.7	23.4	4.13	0.959	0.17	143.3	1.662
25.10.	11:19	5.8	1.4	2.250	43 W	1.7	24.0	4.16	0.957	0.18	144.6	1.662
28.10.	11:26	5.1	1.4	2.230	44 W	1.7	24.5	4.20	0.955	0.19	145.9	1.663
31.10.	11:33	4.4	1.4	2.209	45 W	1.7	25.0	4.24	0.953	0.20	147.2	1.664
3.11.	11:40	3.7	1.4	2.189	46 W	1.7	25.5	4.28	0.951	0.21	148.5	1.664
6.11.	11:46	2.9	1.4	2.167	47 W	1.7	26.0	4.32	0.949	0.22	149.8	1.665
9.11.	11:53	2.2	1.4	2.145	49 W	1.7	26.5	4.36	0.947	0.23	151.1	1.665
12.11.	12:00	1.5	1.4	2.123	50 W	1.7	27.0	4.41	0.945	0.24	152.4	1.666
15.11.	12:06	0.8	1.4	2.100	51 W	1.6	27.5	4.46	0.943	0.25	153.8	1.666
18.11.	12:13	0.1	1.4	2.076	52 W	1.6	28.0	4.51	0.942	0.26	155.1	1.666
21.11.	12:20	-0.6	1.4	2.052	53 W	1.6	28.5	4.56	0.940	0.28	156.4	1.666
24.11.	12:26	-1.3	1.4	2.028	55 W	1.6	28.9	4.62	0.938	0.29	157.7	1.666
27.11.	12:33	-2.0	1.5	2.003	56 W	1.6	29.4	4.67	0.936	0.30	159.0	1.666
30.11.	12:39	-2.7	1.5	1.978	57 W	1.5	29.9	4.73	0.934	0.31	160.3	1.666
3.12.	12:46	-3.4	1.5	1.952	59 W	1.5	30.3	4.80	0.932	0.33	161.6	1.665
6.12.	12:52	-4.1	1.5	1.926	60 W	1.5	30.8	4.86	0.930	0.34	162.9	1.665
9.12.	12:59	-4.7	1.5	1.899	61 W	1.5	31.2	4.93	0.928	0.36	164.2	1.664
12.12.	13:05	-5.4	1.5	1.872	62 W	1.5	31.6	5.00	0.926	0.37	165.5	1.664
15.12.	13:12	-6.0	1.5	1.845	64 W	1.4	32.1	5.07	0.924	0.39	166.9	1.663
18.12.	13:18	-6.7	1.5	1.817	65 W	1.4	32.5	5.15	0.922	0.40	168.2	1.662
21.12.	13:24	-7.3	1.5	1.789	66 W	1.4	32.9	5.23	0.920	0.42	169.5	1.662
24.12.	13:31	-7.9	1.5	1.761	68 W	1.3	33.2	5.32	0.918	0.44	170.8	1.661
27.12.	13:37	-8.6	1.5	1.732	69 W	1.3	33.6	5.40	0.916	0.45	172.1	1.660
30.12.	13:44	-9.2	1.5	1.703	71 W	1.3	34.0	5.50	0.915	0.47	173.5	1.658

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.