Ephemeriden für Sternfreunde
von Karl-Heinz Bücke

www.buecke-info.de

Venus 2015

Datum	α	δ	b	Δ (AE)	E	mv	φ	∅	k	q (")	Δα(h:m)	Δδ(°)	l	r
1.01.	19:56	-22.1	-1.4	1.615	17 O	-3.9	22.6	10.33	0.962	0.40	1:12	0.9	319.3	0.728
4.01.	20:12	-21.4	-1.4	1.606	17 O	-3.9	23.6	10.39	0.958	0.44	1:14	1.3	324.1	0.728
7.01.	20:27	-20.6	-1.5	1.597	18 O	-3.9	24.6	10.44	0.955	0.47	1:17	1.8	328.8	0.728
10.01.	20:43	-19.7	-1.5	1.588	19 O	-3.9	25.6	10.50	0.951	0.52	1:19	2.3	333.6	0.728
13.01.	20:58	-18.7	-1.5	1.579	19 O	-3.9	26.6	10.57	0.947	0.56	1:22	2.8	338.3	0.728
16.01.	21:13	-17.7	-1.6	1.569	20 O	-3.9	27.6	10.63	0.943	0.61	1:24	3.4	343.1	0.728
19.01.	21:28	-16.6	-1.6	1.559	21 O	-3.9	28.6	10.70	0.939	0.65	1:26	3.9	347.8	0.727
22.01.	21:43	-15.3	-1.6	1.548	21 O	-3.9	29.6	10.77	0.935	0.70	1:28	4.5	352.6	0.727
25.01.	21:58	-14.1	-1.6	1.537	22 O	-3.9	30.7	10.85	0.930	0.76	1:30	5.0	357.4	0.727
28.01.	22:12	-12.8	-1.6	1.526	23 O	-3.9	31.7	10.93	0.925	0.81	1:32	5.6	2.1	0.726
31.01.	22:26	-11.4	-1.5	1.514	23 O	-3.9	32.7	11.01	0.921	0.87	1:34	6.1	6.9	0.726
3.02.	22:40	-10.0	-1.5	1.503	24 O	-3.9	33.8	11.10	0.916	0.94	1:36	6.7	11.7	0.726
6.02.	22:54	-8.5	-1.4	1.490	25 O	-3.9	34.8	11.19	0.910	1.00	1:37	7.3	16.5	0.725
9.02.	23:08	-7.0	-1.4	1.478	26 O	-3.9	35.9	11.29	0.905	1.07	1:39	7.8	21.3	0.725
12.02.	23:21	-5.5	-1.3	1.465	26 O	-3.9	37.0	11.39	0.900	1.14	1:41	8.4	26.1	0.725
15.02.	23:35	-4.0	-1.2	1.451	27 O	-3.9	38.0	11.49	0.894	1.22	1:43	8.9	30.8	0.724
18.02.	23:48	-2.4	-1.1	1.438	28 O	-4.0	39.1	11.60	0.888	1.30	1:44	9.4	35.6	0.724
21.02.	0:02	-0.9	-1.0	1.424	28 O	-4.0	40.2	11.72	0.882	1.39	1:46	9.9	40.4	0.723
24.02.	0:15	0.7	-0.9	1.409	29 O	-4.0	41.3	11.84	0.875	1.48	1:48	10.4	45.2	0.723
27.02.	0:29	2.3	-0.8	1.395	30 O	-4.0	42.5	11.96	0.869	1.57	1:50	10.8	50.1	0.723
2.03.	0:42	3.8	-0.7	1.379	30 O	-4.0	43.6	12.09	0.862	1.67	1:52	11.3	54.9	0.722
5.03.	0:55	5.4	-0.5	1.364	31 O	-4.0	44.8	12.23	0.855	1.77	1:54	11.7	59.7	0.722
8.03.	1:09	6.9	-0.4	1.348	31 O	-4.0	45.9	12.37	0.848	1.88	1:57	12.0	64.5	0.721
11.03.	1:22	8.4	-0.2	1.332	32 O	-4.0	47.1	12.52	0.840	2.00	1:59	12.3	69.3	0.721
14.03.	1:36	9.9	-0.1	1.315	33 O	-4.0	48.3	12.68	0.833	2.12	2:01	12.7	74.2	0.721
17.03.	1:49	11.4	0.1	1.298	33 O	-4.0	49.5	12.85	0.825	2.25	2:04	12.9	79.0	0.720
20.03.	2:03	12.8	0.2	1.281	34 O	-4.0	50.7	13.02	0.816	2.39	2:07	13.1	83.8	0.720
23.03.	2:16	14.1	0.4	1.263	35 O	-4.0	52.0	13.21	0.808	2.54	2:09	13.3	88.7	0.720
26.03.	2:30	15.4	0.6	1.245	35 O	-4.0	53.2	13.40	0.799	2.69	2:12	13.4	93.5	0.719
29.03.	2:44	16.7	0.7	1.226	36 O	-4.0	54.5	13.60	0.790	2.85	2:15	13.5	98.4	0.719
1.04.	2:58	17.9	0.9	1.207	37 O	-4.0	55.8	13.82	0.781	3.02	2:19	13.6	103.2	0.719
4.04.	3:13	19.0	1.1	1.188	37 O	-4.0	57.1	14.04	0.772	3.20	2:22	13.6	108.1	0.719
7.04.	3:27	20.1	1.2	1.168	38 O	-4.0	58.4	14.28	0.762	3.40	2:25	13.5	113.0	0.719
10.04.	3:41	21.1	1.4	1.148	38 O	-4.0	59.7	14.52	0.752	3.60	2:29	13.3	117.8	0.719
13.04.	3:56	22.0	1.6	1.128	39 O	-4.1	61.1	14.79	0.742	3.82	2:32	13.2	122.7	0.718
16.04.	4:11	22.8	1.7	1.107	39 O	-4.1	62.5	15.06	0.731	4.05	2:36	12.9	127.6	0.718
19.04.	4:26	23.6	1.9	1.086	40 O	-4.1	63.9	15.35	0.720	4.29	2:40	12.6	132.5	0.718
22.04.	4:40	24.2	2.0	1.065	40 O	-4.1	65.3	15.66	0.709	4.55	2:43	12.2	137.3	0.718
25.04.	4:55	24.8	2.1	1.043	41 O	-4.1	66.7	15.99	0.698	4.83	2:47	11.7	142.2	0.719
28.04.	5:10	25.2	2.2	1.021	41 O	-4.1	68.2	16.33	0.686	5.13	2:50	11.2	147.1	0.719

Datum	α	δ	b	Δ (AE)	E	mv	φ	∅	k	q (")	Δα(h:m)	Δδ(°)	l	r
1.05.	5:25	25.6	2.4	0.999	42 O	-4.1	69.6	16.70	0.674	5.44	2:54	10.7	152.0	0.719
4.05.	5:40	25.8	2.5	0.977	42 O	-4.1	71.1	17.08	0.662	5.78	2:57	10.0	156.8	0.719
7.05.	5:55	26.0	2.5	0.954	43 O	-4.1	72.7	17.49	0.649	6.14	3:01	9.3	161.7	0.719
10.05.	6:10	26.0	2.6	0.931	43 O	-4.2	74.2	17.92	0.636	6.52	3:04	8.6	166.6	0.719
13.05.	6:24	26.0	2.7	0.907	44 O	-4.2	75.8	18.38	0.623	6.93	3:07	7.8	171.4	0.720
16.05.	6:39	25.9	2.7	0.884	44 O	-4.2	77.4	18.87	0.609	7.38	3:09	6.9	176.3	0.720
19.05.	6:53	25.6	2.8	0.860	44 O	-4.2	79.0	19.39	0.595	7.85	3:11	6.0	181.2	0.720
22.05.	7:07	25.3	2.8	0.836	45 O	-4.2	80.7	19.94	0.581	8.36	3:13	5.0	186.0	0.720
25.05.	7:20	24.9	2.8	0.813	45 O	-4.2	82.4	20.53	0.566	8.91	3:15	4.1	190.9	0.721
28.05.	7:34	24.4	2.7	0.788	45 O	-4.2	84.2	21.16	0.551	9.51	3:16	3.0	195.7	0.721
31.05.	7:47	23.9	2.7	0.764	45 O	-4.3	86.0	21.83	0.535	10.15	3:17	2.0	200.6	0.722
3.06.	8:00	23.2	2.6	0.740	45 O	-4.3	87.9	22.54	0.519	10.85	3:18	1.0	205.4	0.722
6.06.	8:12	22.5	2.5	0.716	45 O	-4.3	89.8	23.31	0.502	11.61	3:18	-0.1	210.2	0.722
9.06.	8:24	21.7	2.4	0.691	45 O	-4.3	91.7	24.13	0.485	12.43	3:17	-1.1	215.0	0.723
12.06.	8:35	20.9	2.2	0.667	45 O	-4.3	93.8	25.01	0.467	13.33	3:16	-2.2	219.8	0.723
15.06.	8:46	20.0	2.0	0.643	45 O	-4.4	95.9	25.96	0.449	14.31	3:15	-3.2	224.6	0.724
18.06.	8:57	19.1	1.8	0.618	45 O	-4.4	98.1	26.97	0.430	15.38	3:13	-4.3	229.4	0.724
21.06.	9:07	18.2	1.6	0.594	45 O	-4.4	100.3	28.06	0.410	16.55	3:10	-5.2	234.2	0.724
24.06.	9:16	17.2	1.3	0.571	44 O	-4.4	102.7	29.23	0.390	17.83	3:07	-6.2	239.0	0.725
27.06.	9:25	16.2	1.0	0.547	43 O	-4.4	105.2	30.49	0.369	19.25	3:03	-7.1	243.8	0.725
30.06.	9:33	15.2	0.7	0.524	43 O	-4.4	107.8	31.85	0.347	20.80	2:59	-8.0	248.6	0.726
3.07.	9:40	14.2	0.3	0.501	42 O	-4.5	110.6	33.30	0.324	22.51	2:54	-8.8	253.3	0.726
6.07.	9:47	13.2	-0.1	0.478	41 O	-4.5	113.5	34.87	0.300	24.40	2:48	-9.5	258.1	0.726
9.07.	9:52	12.2	-0.6	0.456	40 O	-4.5	116.6	36.54	0.276	26.46	2:41	-10.2	262.8	0.727
12.07.	9:57	11.3	-1.1	0.435	38 O	-4.5	119.9	38.33	0.250	28.73	2:34	-10.7	267.6	0.727
15.07.	10:01	10.4	-1.6	0.415	37 O	-4.5	123.5	40.23	0.224	31.21	2:26	-11.2	272.4	0.727
18.07.	10:04	9.5	-2.2	0.395	35 O	-4.5	127.2	42.22	0.197	33.89	2:16	-11.6	277.1	0.727
21.07.	10:05	8.7	-2.8	0.376	33 O	-4.4	131.3	44.31	0.170	36.77	2:06	-11.8	281.8	0.728
24.07.	10:06	8.0	-3.4	0.359	30 O	-4.4	135.6	46.45	0.143	39.82	1:54	-12.0	286.6	0.728
27.07.	10:05	7.4	-4.1	0.343	27 O	-4.4	140.2	48.60	0.116	42.97	1:41	-11.9	291.3	0.728
30.07.	10:02	6.9	-4.8	0.329	24 O	-4.3	145.1	50.72	0.090	46.15	1:27	-11.7	296.1	0.728
2.08.	9:59	6.5	-5.4	0.316	21 O	-4.3	150.2	52.72	0.066	49.23	1:12	-11.4	300.8	0.728
5.08.	9:54	6.3	-6.1	0.306	17 O	-4.2	155.5	54.52	0.045	52.06	0:55	-10.8	305.6	0.728
8.08.	9:48	6.2	-6.7	0.298	14 O	-4.1	160.7	56.01	0.028	54.44	0:38	-10.1	310.3	0.728
11.08.	9:41	6.2	-7.2	0.292	10 O	-4.0	165.4	57.10	0.016	56.18	0:20	-9.2	315.1	0.728
14.08.	9:34	6.4	-7.6	0.289	8 O	-4.0	168.6	57.72	0.010	57.15	0:01	-8.2	319.8	0.728
17.08.	9:26	6.7	-8.0	0.289	8 W	-4.0	168.6	57.81	0.010	57.24	-0:18	-6.9	324.5	0.728
20.08.	9:19	7.1	-8.1	0.291	10 W	-4.0	165.4	57.37	0.016	56.44	-0:36	-5.6	329.3	0.728
23.08.	9:13	7.5	-8.2	0.296	14 W	-4.1	160.6	56.45	0.028	54.85	-0:54	-4.1	334.1	0.728
26.08.	9:07	8.0	-8.1	0.303	17 W	-4.2	155.4	55.10	0.046	52.59	-1:10	-2.6	338.8	0.728
29.08.	9:03	8.5	-7.9	0.312	21 W	-4.3	150.1	53.44	0.067	49.88	-1:25	-1.0	343.6	0.727

Datum	α	δ	b	Δ (AE)	E	mv	φ	∅	k	q (")	Δα(h:m)	Δδ(°)	l	r
1.09.	9:00	9.0	-7.6	0.324	24 W	-4.4	144.9	51.54	0.091	46.86	-1:39	0.6	348.3	0.727
4.09.	8:59	9.5	-7.3	0.337	28 W	-4.4	140.0	49.52	0.117	43.74	-1:51	2.1	353.1	0.727
7.09.	8:59	9.9	-6.9	0.352	30 W	-4.5	135.4	47.43	0.144	40.61	-2:02	3.6	357.9	0.727
10.09.	9:00	10.2	-6.5	0.368	33 W	-4.5	131.1	45.35	0.171	37.58	-2:11	5.1	2.6	0.726
13.09.	9:03	10.5	-6.0	0.385	35 W	-4.5	127.1	43.31	0.199	34.71	-2:19	6.5	7.4	0.726
16.09.	9:07	10.7	-5.5	0.403	37 W	-4.5	123.3	41.34	0.225	32.02	-2:26	7.9	12.2	0.726
19.09.	9:12	10.9	-5.0	0.423	39 W	-4.5	119.8	39.47	0.251	29.54	-2:32	9.2	17.0	0.725
22.09.	9:18	10.9	-4.6	0.442	40 W	-4.5	116.5	37.70	0.277	27.27	-2:37	10.4	21.7	0.725
25.09.	9:25	10.8	-4.1	0.463	42 W	-4.5	113.4	36.03	0.301	25.18	-2:40	11.5	26.5	0.725
28.09.	9:33	10.7	-3.6	0.484	43 W	-4.5	110.5	34.48	0.325	23.29	-2:44	12.5	31.3	0.724
1.10.	9:41	10.5	-3.2	0.505	43 W	-4.5	107.8	33.02	0.347	21.56	-2:46	13.5	36.1	0.724
4.10.	9:50	10.2	-2.7	0.527	44 W	-4.5	105.2	31.66	0.369	19.99	-2:48	14.3	40.9	0.723
7.10.	9:59	9.8	-2.3	0.549	45 W	-4.5	102.8	30.40	0.389	18.56	-2:50	15.1	45.7	0.723
10.10.	10:09	9.3	-1.9	0.571	45 W	-4.5	100.4	29.22	0.409	17.26	-2:51	15.8	50.5	0.723
13.10.	10:19	8.8	-1.5	0.593	46 W	-4.5	98.2	28.12	0.429	16.07	-2:52	16.3	55.4	0.722
16.10.	10:30	8.1	-1.1	0.616	46 W	-4.4	96.1	27.09	0.447	14.98	-2:52	16.8	60.2	0.722
19.10.	10:41	7.4	-0.8	0.638	46 W	-4.4	94.0	26.14	0.465	13.99	-2:52	17.2	65.0	0.721
22.10.	10:52	6.7	-0.5	0.661	46 W	-4.4	92.1	25.24	0.482	13.07	-2:53	17.5	69.8	0.721
25.10.	11:03	5.9	-0.1	0.683	46 W	-4.4	90.2	24.41	0.499	12.24	-2:53	17.8	74.7	0.721
28.10.	11:15	5.0	0.2	0.706	46 W	-4.4	88.3	23.62	0.515	11.46	-2:53	17.9	79.5	0.720
31.10.	11:27	4.0	0.4	0.729	46 W	-4.4	86.5	22.89	0.530	10.75	-2:52	17.9	84.3	0.720
3.11.	11:39	3.0	0.7	0.751	46 W	-4.3	84.8	22.20	0.545	10.10	-2:52	17.9	89.2	0.720
6.11.	11:51	2.0	0.9	0.774	46 W	-4.3	83.1	21.56	0.560	9.49	-2:52	17.8	94.0	0.719
9.11.	12:03	0.9	1.2	0.796	46 W	-4.3	81.5	20.95	0.574	8.92	-2:52	17.6	98.9	0.719
12.11.	12:15	-0.2	1.4	0.819	46 W	-4.3	79.9	20.38	0.588	8.40	-2:52	17.3	103.7	0.719
15.11.	12:27	-1.4	1.5	0.841	45 W	-4.3	78.3	19.84	0.601	7.91	-2:52	17.0	108.6	0.719
18.11.	12:40	-2.5	1.7	0.863	45 W	-4.3	76.8	19.33	0.614	7.45	-2:51	16.6	113.5	0.719
21.11.	12:53	-3.7	1.8	0.885	45 W	-4.2	75.3	18.85	0.627	7.03	-2:51	16.1	118.3	0.719
24.11.	13:05	-4.9	1.9	0.907	44 W	-4.2	73.8	18.40	0.639	6.63	-2:51	15.5	123.2	0.718
27.11.	13:18	-6.1	2.0	0.928	44 W	-4.2	72.4	17.97	0.651	6.26	-2:51	14.9	128.1	0.718
30.11.	13:31	-7.3	2.1	0.950	44 W	-4.2	70.9	17.56	0.663	5.91	-2:51	14.2	133.0	0.718
3.12.	13:45	-8.5	2.2	0.971	43 W	-4.2	69.6	17.17	0.675	5.59	-2:50	13.5	137.8	0.718
6.12.	13:58	-9.7	2.2	0.992	43 W	-4.2	68.2	16.81	0.686	5.28	-2:50	12.7	142.7	0.719
9.12.	14:12	-10.9	2.3	1.013	42 W	-4.2	66.8	16.46	0.697	4.99	-2:50	11.9	147.6	0.719
12.12.	14:25	-12.0	2.3	1.034	42 W	-4.1	65.5	16.13	0.707	4.72	-2:49	11.0	152.5	0.719
15.12.	14:39	-13.1	2.3	1.055	41 W	-4.1	64.2	15.82	0.718	4.47	-2:48	10.1	157.3	0.719
18.12.	14:53	-14.2	2.3	1.075	41 W	-4.1	62.9	15.52	0.728	4.23	-2:48	9.1	162.2	0.719
21.12.	15:07	-15.3	2.2	1.095	40 W	-4.1	61.6	15.23	0.738	4.00	-2:47	8.2	167.1	0.719
24.12.	15:22	-16.3	2.2	1.115	39 W	-4.1	60.4	14.96	0.747	3.78	-2:46	7.2	171.9	0.720
27.12.	15:36	-17.2	2.1	1.134	39 W	-4.1	59.1	14.71	0.756	3.58	-2:44	6.2	176.8	0.720
30.12.	15:51	-18.1	2.0	1.154	38 W	-4.1	57.9	14.46	0.766	3.39	-2:43	5.1	181.7	0.720

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

Koordinaten für Tagesbeobachtungen:
Δα und Δδ: Rektaszensions- und Deklinationsdifferenzen (Venus minus Sonne)

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