



## Ephemeriden für Sternfreunde

von Karl-Heinz Bücke

### Jupiter

Januar 2020 (0<sup>h</sup> UT)

Tag	$\alpha$	$\delta$	$\Delta$	$\varphi$	$m_V$	$\varnothing_{\lambda}$	$\varnothing_P$	$D_S$	$D_e$	$q$	$l$	$b$	$r$
1	18:27	-23.2	6.21	0.6	-1.4	31.7"	29.6"	-2.1	-2.0	0.0"	275.8	0.1	5.23
5	18:31	-23.1	6.20	1.2	-1.4	31.8"	29.7"	-2.1	-2.0	0.0"	276.1	0.1	5.23
9	18:35	-23.1	6.19	1.8	-1.4	31.8"	29.7"	-2.0	-2.0	0.0"	276.4	0.1	5.23
13	18:39	-23.0	6.18	2.4	-1.4	31.9"	29.8"	-2.0	-2.0	0.0"	276.7	0.1	5.22
17	18:43	-23.0	6.16	3.0	-1.4	32.0"	29.9"	-2.0	-1.9	0.0"	277.1	0.1	5.22
21	18:47	-22.9	6.14	3.5	-1.4	32.1"	30.0"	-2.0	-1.9	0.0"	277.4	0.1	5.22
25	18:51	-22.8	6.12	4.1	-1.4	32.2"	30.1"	-2.0	-1.9	0.0"	277.7	0.1	5.22
29	18:55	-22.8	6.09	4.7	-1.4	32.3"	30.1"	-2.0	-1.9	-0.1"	278.1	0.1	5.22

Februar 2020 (0<sup>h</sup> UT)

Tag	$\alpha$	$\delta$	$\Delta$	$\varphi$	$m_V$	$\varnothing_{\lambda}$	$\varnothing_P$	$D_S$	$D_e$	$q$	$l$	$b$	$r$
1	18:58	-22.7	6.07	5.1	-1.4	32.5"	30.3"	-2.0	-1.9	-0.1"	278.3	0.0	5.22
5	19:01	-22.6	6.03	5.6	-1.4	32.6"	30.4"	-1.9	-1.8	-0.1"	278.6	0.0	5.22
9	19:05	-22.5	6.00	6.1	-1.5	32.8"	30.6"	-1.9	-1.8	-0.1"	279.0	0.0	5.21
13	19:09	-22.5	5.96	6.6	-1.5	33.0"	30.8"	-1.9	-1.8	-0.1"	279.3	0.0	5.21
17	19:12	-22.4	5.92	7.1	-1.5	33.3"	31.1"	-1.9	-1.8	-0.1"	279.6	0.0	5.21
21	19:15	-22.3	5.88	7.6	-1.5	33.5"	31.3"	-1.9	-1.7	-0.1"	280.0	0.0	5.21
25	19:19	-22.2	5.83	8.0	-1.5	33.8"	31.5"	-1.9	-1.7	-0.2"	280.3	0.0	5.21
29	19:22	-22.1	5.78	8.4	-1.5	34.1"	31.8"	-1.9	-1.7	-0.2"	280.6	0.0	5.21

März 2020 (0<sup>h</sup> UT)

Tag	$\alpha$	$\delta$	$\Delta$	$\varphi$	$m_V$	$\varnothing_{\lambda}$	$\varnothing_P$	$D_S$	$D_e$	$q$	$l$	$b$	$r$
1	19:23	-22.1	5.77	8.5	-1.5	34.1"	31.8"	-1.9	-1.7	-0.2"	280.7	0.0	5.21
5	19:26	-22.0	5.72	8.9	-1.6	34.5"	32.2"	-1.8	-1.7	-0.2"	281.0	0.0	5.21
9	19:29	-21.9	5.66	9.3	-1.6	34.8"	32.5"	-1.8	-1.6	-0.2"	281.4	0.0	5.20
13	19:32	-21.8	5.61	9.6	-1.6	35.1"	32.8"	-1.8	-1.6	-0.2"	281.7	0.0	5.20
17	19:35	-21.7	5.55	9.9	-1.6	35.5"	33.1"	-1.8	-1.6	-0.3"	282.0	0.0	5.20
21	19:37	-21.6	5.49	10.2	-1.7	35.9"	33.5"	-1.8	-1.6	-0.3"	282.4	0.0	5.20
25	19:40	-21.5	5.43	10.5	-1.7	36.3"	33.9"	-1.8	-1.5	-0.3"	282.7	0.0	5.20
29	19:42	-21.4	5.37	10.7	-1.7	36.7"	34.3"	-1.8	-1.5	-0.3"	283.0	-0.1	5.20

April 2020 (0<sup>h</sup> UT)

Tag	$\alpha$	$\delta$	$\Delta$	$\varphi$	$m_V$	$\varnothing_{\lambda}$	$\varnothing_P$	$D_S$	$D_e$	$q$	$l$	$b$	$r$
1	19:43	-21.4	5.32	10.8	-1.7	37.0"	34.5"	-1.7	-1.5	-0.3"	283.3	-0.1	5.20
5	19:46	-21.3	5.26	11.0	-1.7	37.5"	35.0"	-1.7	-1.5	-0.3"	283.6	-0.1	5.19
9	19:47	-21.2	5.20	11.1	-1.8	37.9"	35.4"	-1.7	-1.5	-0.4"	283.9	-0.1	5.19
13	19:49	-21.1	5.13	11.1	-1.8	38.4"	35.8"	-1.7	-1.4	-0.4"	284.3	-0.1	5.19
17	19:51	-21.1	5.07	11.1	-1.8	38.9"	36.3"	-1.7	-1.4	-0.4"	284.6	-0.1	5.19
21	19:52	-21.0	5.00	11.1	-1.9	39.4"	36.8"	-1.7	-1.4	-0.4"	284.9	-0.1	5.19
25	19:53	-21.0	4.94	11.1	-1.9	39.9"	37.2"	-1.6	-1.4	-0.4"	285.3	-0.1	5.19
29	19:54	-21.0	4.88	10.9	-1.9	40.4"	37.7"	-1.6	-1.4	-0.4"	285.6	-0.1	5.18

Jupiter

Mai 2020 (0<sup>h</sup> UT)

Tag	$\alpha$	$\delta$	$\Delta$	$\varphi$	$m_V$	$\varnothing_{\bar{A}}$	$\varnothing_P$	$D_s$	$D_e$	$q$	$l$	$b$	$r$
1	19:54	-20.9	4.84	10.9	-1.9	40.6"	37.9"	-1.6	-1.4	-0.4"	285.8	-0.1	5.18
5	19:55	-20.9	4.78	10.7	-2.0	41.2"	38.5"	-1.6	-1.3	-0.4"	286.1	-0.1	5.18
9	19:55	-20.9	4.72	10.4	-2.0	41.7"	38.9"	-1.6	-1.3	-0.3"	286.5	-0.1	5.18
13	19:55	-20.9	4.66	10.1	-2.0	42.2"	39.4"	-1.6	-1.3	-0.3"	286.8	-0.1	5.18
17	19:55	-20.9	4.61	9.8	-2.0	42.7"	39.9"	-1.6	-1.3	-0.3"	287.1	-0.1	5.18
21	19:55	-20.9	4.55	9.4	-2.1	43.3"	40.4"	-1.5	-1.3	-0.3"	287.5	-0.2	5.18
25	19:55	-21.0	4.50	9.0	-2.1	43.8"	40.9"	-1.5	-1.3	-0.3"	287.8	-0.2	5.18
29	19:54	-21.0	4.45	8.5	-2.1	44.3"	41.3"	-1.5	-1.3	-0.2"	288.1	-0.2	5.17

Juni 2020 (0<sup>h</sup> UT)

Tag	$\alpha$	$\delta$	$\Delta$	$\varphi$	$m_V$	$\varnothing_{\bar{A}}$	$\varnothing_P$	$D_s$	$D_e$	$q$	$l$	$b$	$r$
1	19:54	-21.0	4.41	8.1	-2.1	44.6"	41.6"	-1.5	-1.3	-0.2"	288.4	-0.2	5.17
5	19:53	-21.1	4.37	7.5	-2.2	45.1"	42.1"	-1.5	-1.3	-0.2"	288.7	-0.2	5.17
9	19:51	-21.1	4.33	6.9	-2.2	45.5"	42.5"	-1.5	-1.3	-0.2"	289.1	-0.2	5.17
13	19:50	-21.2	4.29	6.2	-2.2	45.9"	42.8"	-1.5	-1.3	-0.1"	289.4	-0.2	5.17
17	19:48	-21.3	4.26	5.5	-2.2	46.3"	43.2"	-1.4	-1.3	-0.1"	289.7	-0.2	5.17
21	19:47	-21.4	4.23	4.8	-2.2	46.6"	43.5"	-1.4	-1.3	-0.1"	290.1	-0.2	5.17
25	19:45	-21.5	4.20	4.0	-2.2	46.9"	43.8"	-1.4	-1.3	-0.1"	290.4	-0.2	5.16
29	19:43	-21.5	4.18	3.2	-2.3	47.1"	44.0"	-1.4	-1.3	0.0"	290.7	-0.2	5.16

Juli 2020 (0<sup>h</sup> UT)

Tag	$\alpha$	$\delta$	$\Delta$	$\varphi$	$m_V$	$\varnothing_{\bar{A}}$	$\varnothing_P$	$D_s$	$D_e$	$q$	$l$	$b$	$r$
1	19:42	-21.6	4.17	2.8	-2.3	47.2"	44.1"	-1.4	-1.3	0.0"	290.9	-0.2	5.16
5	19:40	-21.7	4.16	2.0	-2.3	47.4"	44.2"	-1.4	-1.3	0.0"	291.2	-0.2	5.16
9	19:38	-21.8	4.15	1.1	-2.3	47.5"	44.3"	-1.3	-1.3	0.0"	291.6	-0.2	5.16
13	19:36	-21.9	4.14	0.3	-2.3	47.6"	44.4"	-1.3	-1.3	0.0"	291.9	-0.3	5.16
17	19:33	-22.0	4.14	0.6	-2.3	47.6"	44.4"	-1.3	-1.3	0.0"	292.3	-0.3	5.16
21	19:31	-22.0	4.15	1.4	-2.3	47.5"	44.3"	-1.3	-1.3	0.0"	292.6	-0.3	5.15
25	19:29	-22.1	4.15	2.3	-2.3	47.4"	44.2"	-1.3	-1.3	0.0"	292.9	-0.3	5.15
29	19:27	-22.2	4.17	3.1	-2.3	47.3"	44.1"	-1.3	-1.3	0.0"	293.3	-0.3	5.15

August 2020 (0<sup>h</sup> UT)

Tag	$\alpha$	$\delta$	$\Delta$	$\varphi$	$m_V$	$\varnothing_{\bar{A}}$	$\varnothing_P$	$D_s$	$D_e$	$q$	$l$	$b$	$r$
1	19:26	-22.3	4.18	3.7	-2.3	47.1"	44.0"	-1.3	-1.3	0.0"	293.5	-0.3	5.15
5	19:24	-22.3	4.20	4.5	-2.3	46.9"	43.8"	-1.2	-1.3	0.1"	293.9	-0.3	5.15
9	19:22	-22.4	4.23	5.2	-2.2	46.6"	43.5"	-1.2	-1.3	0.1"	294.2	-0.3	5.15
13	19:20	-22.5	4.26	6.0	-2.2	46.3"	43.2"	-1.2	-1.3	0.1"	294.5	-0.3	5.15
17	19:19	-22.5	4.29	6.6	-2.2	45.9"	42.8"	-1.2	-1.3	0.2"	294.9	-0.3	5.14
21	19:17	-22.6	4.33	7.3	-2.2	45.5"	42.5"	-1.2	-1.3	0.2"	295.2	-0.3	5.14
25	19:16	-22.6	4.37	7.9	-2.2	45.1"	42.1"	-1.2	-1.3	0.2"	295.6	-0.3	5.14
29	19:15	-22.6	4.41	8.4	-2.2	44.6"	41.6"	-1.1	-1.3	0.2"	295.9	-0.3	5.14

September 2020 (0<sup>h</sup> UT)

Tag	$\alpha$	$\delta$	$\Delta$	$\varphi$	$m_V$	$\varnothing_{\bar{A}}$	$\varnothing_P$	$D_s$	$D_e$	$q$	$l$	$b$	$r$
1	19:15	-22.7	4.45	8.8	-2.1	44.3"	41.3"	-1.1	-1.3	0.3"	296.2	-0.4	5.14
5	19:14	-22.7	4.50	9.3	-2.1	43.8"	40.9"	-1.1	-1.3	0.3"	296.5	-0.4	5.14
9	19:14	-22.7	4.55	9.7	-2.1	43.3"	40.4"	-1.1	-1.3	0.3"	296.8	-0.4	5.14
13	19:14	-22.7	4.60	10.1	-2.1	42.8"	39.9"	-1.1	-1.3	0.3"	297.2	-0.4	5.13
17	19:14	-22.7	4.66	10.4	-2.0	42.3"	39.5"	-1.1	-1.3	0.3"	297.5	-0.4	5.13
21	19:14	-22.7	4.72	10.7	-2.0	41.8"	39.0"	-1.0	-1.3	0.4"	297.9	-0.4	5.13
25	19:15	-22.7	4.78	10.9	-2.0	41.2"	38.5"	-1.0	-1.3	0.4"	298.2	-0.4	5.13
29	19:16	-22.7	4.83	11.0	-2.0	40.7"	38.0"	-1.0	-1.3	0.4"	298.5	-0.4	5.13

# Jupiter

## Oktober 2020 (0<sup>h</sup> UT)

Tag	$\alpha$	$\delta$	$\Delta$	$\varphi$	$m_V$	$\varnothing_{\bar{A}}$	$\varnothing_P$	$D_s$	$D_e$	$q$	$l$	$b$	$r$
1	19:16	-22.7	4.87	11.1	-1.9	40.5"	37.8"	-1.0	-1.3	0.4"	298.7	-0.4	5.13
5	19:17	-22.7	4.93	11.2	-1.9	40.0"	37.3"	-1.0	-1.3	0.4"	299.1	-0.4	5.13
9	19:18	-22.6	4.99	11.2	-1.9	39.5"	36.9"	-1.0	-1.3	0.4"	299.4	-0.4	5.13
13	19:20	-22.6	5.05	11.2	-1.9	39.0"	36.4"	-0.9	-1.3	0.4"	299.7	-0.4	5.12
17	19:22	-22.5	5.11	11.2	-1.8	38.5"	35.9"	-0.9	-1.3	0.4"	300.1	-0.4	5.12
21	19:24	-22.5	5.17	11.1	-1.8	38.1"	35.6"	-0.9	-1.2	0.4"	300.4	-0.4	5.12
25	19:26	-22.4	5.23	11.0	-1.8	37.6"	35.1"	-0.9	-1.2	0.3"	300.8	-0.5	5.12
29	19:28	-22.4	5.29	10.8	-1.8	37.2"	34.7"	-0.9	-1.2	0.3"	301.1	-0.5	5.12

## November 2020 (0<sup>h</sup> UT)

Tag	$\alpha$	$\delta$	$\Delta$	$\varphi$	$m_V$	$\varnothing_{\bar{A}}$	$\varnothing_P$	$D_s$	$D_e$	$q$	$l$	$b$	$r$
1	19:30	-22.3	5.34	10.6	-1.7	36.9"	34.4"	-0.9	-1.2	0.3"	301.4	-0.5	5.12
5	19:32	-22.2	5.39	10.4	-1.7	36.5"	34.1"	-0.8	-1.2	0.3"	301.7	-0.5	5.12
9	19:35	-22.1	5.45	10.1	-1.7	36.1"	33.7"	-0.8	-1.2	0.3"	302.1	-0.5	5.11
13	19:37	-22.0	5.51	9.8	-1.7	35.8"	33.4"	-0.8	-1.1	0.3"	302.4	-0.5	5.11
17	19:40	-21.9	5.56	9.5	-1.7	35.4"	33.0"	-0.8	-1.1	0.2"	302.7	-0.5	5.11
21	19:43	-21.8	5.61	9.1	-1.6	35.1"	32.8"	-0.8	-1.1	0.2"	303.1	-0.5	5.11
25	19:46	-21.7	5.66	8.7	-1.6	34.8"	32.5"	-0.7	-1.1	0.2"	303.4	-0.5	5.11
29	19:50	-21.6	5.71	8.3	-1.6	34.5"	32.2"	-0.7	-1.0	0.2"	303.8	-0.5	5.11

## Dezember 2020 (0<sup>h</sup> UT)

Tag	$\alpha$	$\delta$	$\Delta$	$\varphi$	$m_V$	$\varnothing_{\bar{A}}$	$\varnothing_P$	$D_s$	$D_e$	$q$	$l$	$b$	$r$
1	19:51	-21.5	5.73	8.1	-1.6	34.4"	32.1"	-0.7	-1.0	0.2"	303.9	-0.5	5.11
5	19:55	-21.3	5.77	7.7	-1.6	34.1"	31.8"	-0.7	-1.0	0.2"	304.3	-0.5	5.11
9	19:58	-21.2	5.81	7.2	-1.6	33.9"	31.6"	-0.7	-1.0	0.1"	304.6	-0.5	5.10
13	20:02	-21.0	5.85	6.7	-1.6	33.6"	31.4"	-0.7	-0.9	0.1"	305.0	-0.5	5.10
17	20:05	-20.9	5.89	6.2	-1.5	33.4"	31.2"	-0.6	-0.9	0.1"	305.3	-0.5	5.10
21	20:09	-20.7	5.92	5.7	-1.5	33.3"	31.1"	-0.6	-0.9	0.1"	305.7	-0.6	5.10
25	20:12	-20.5	5.95	5.1	-1.5	33.1"	30.9"	-0.6	-0.9	0.1"	306.0	-0.6	5.10
29	20:16	-20.3	5.98	4.6	-1.5	33.0"	30.8"	-0.6	-0.8	0.1"	306.4	-0.6	5.10