



Ephemeriden für Sternfreunde

von Karl-Heinz Bücke

Saturn

Januar 2020 (0^h UT)

Tag	α	δ	Δ	φ	m_v	$\varnothing_{\bar{A}}$	\varnothing_P	R- \varnothing_g	R- \varnothing_k	D_s	D_e
1	19:32	-21.7	11.01	1.1	0.8	15.0"	13.7"	34.1"	13.6"	23.3	23.6
6	19:35	-21.6	11.03	0.7	0.7	15.0"	13.7"	34.0"	13.5"	23.2	23.4
11	19:37	-21.5	11.03	0.2	0.7	15.0"	13.6"	34.0"	13.4"	23.2	23.3
16	19:40	-21.4	11.03	-0.2	0.7	15.0"	13.6"	34.0"	13.3"	23.2	23.1
21	19:42	-21.3	11.03	-0.6	0.7	15.0"	13.6"	34.0"	13.3"	23.1	22.9
26	19:45	-21.2	11.01	-1.1	0.7	15.0"	13.7"	34.1"	13.2"	23.1	22.8
31	19:47	-21.1	10.99	-1.5	0.7	15.0"	13.7"	34.1"	13.1"	23.0	22.6

Februar 2020 (0^h UT)

Tag	α	δ	Δ	φ	m_v	$\varnothing_{\bar{A}}$	\varnothing_P	R- \varnothing_g	R- \varnothing_k	D_s	D_e
1	19:48	-21.1	10.99	-1.6	0.7	15.1"	13.7"	34.2"	13.1"	23.0	22.6
6	19:50	-21.0	10.96	-2.0	0.6	15.1"	13.7"	34.2"	13.1"	23.0	22.4
11	19:53	-20.9	10.93	-2.4	0.6	15.1"	13.8"	34.3"	13.0"	23.0	22.3
16	19:55	-20.8	10.89	-2.8	0.6	15.2"	13.8"	34.5"	13.0"	22.9	22.1
21	19:57	-20.7	10.85	-3.2	0.6	15.3"	13.9"	34.6"	12.9"	22.9	21.9
26	19:59	-20.6	10.80	-3.6	0.5	15.3"	13.9"	34.8"	12.9"	22.9	21.8

März 2020 (0^h UT)

Tag	α	δ	Δ	φ	m_v	$\varnothing_{\bar{A}}$	\varnothing_P	R- \varnothing_g	R- \varnothing_k	D_s	D_e
1	20:01	-20.5	10.75	-3.8	0.5	15.4"	14.0"	34.9"	12.9"	22.8	21.7
6	20:03	-20.5	10.69	-4.2	0.5	15.5"	14.0"	35.1"	12.9"	22.8	21.5
11	20:05	-20.4	10.63	-4.5	0.5	15.6"	14.1"	35.3"	12.9"	22.7	21.4
16	20:07	-20.3	10.56	-4.7	0.5	15.7"	14.2"	35.5"	12.9"	22.7	21.2
21	20:08	-20.2	10.49	-5.0	0.4	15.8"	14.3"	35.8"	12.9"	22.7	21.1
26	20:10	-20.1	10.42	-5.2	0.4	15.9"	14.4"	36.0"	12.9"	22.6	21.0
31	20:11	-20.1	10.34	-5.4	0.4	16.0"	14.5"	36.3"	13.0"	22.6	20.9

April 2020 (0^h UT)

Tag	α	δ	Δ	φ	m_v	$\varnothing_{\bar{A}}$	\varnothing_P	R- \varnothing_g	R- \varnothing_k	D_s	D_e
1	20:11	-20.1	10.32	-5.4	0.4	16.0"	14.5"	36.4"	13.0"	22.6	20.9
6	20:13	-20.0	10.24	-5.5	0.4	16.2"	14.6"	36.6"	13.0"	22.5	20.8
11	20:14	-20.0	10.16	-5.6	0.4	16.3"	14.8"	36.9"	13.1"	22.5	20.7
16	20:15	-19.9	10.08	-5.7	0.3	16.4"	14.9"	37.2"	13.1"	22.5	20.7
21	20:15	-19.9	10.00	-5.7	0.3	16.6"	15.0"	37.6"	13.2"	22.4	20.6
26	20:16	-19.9	9.91	-5.7	0.3	16.7"	15.1"	37.9"	13.3"	22.4	20.6

Mai 2020 (0^h UT)

Tag	α	δ	Δ	φ	m_v	$\varnothing_{\bar{A}}$	\varnothing_P	R- \varnothing_g	R- \varnothing_k	D_s	D_e
1	20:16	-19.8	9.83	-5.7	0.3	16.8"	15.3"	38.2"	13.4"	22.4	20.5
6	20:17	-19.8	9.75	-5.6	0.3	17.0"	15.4"	38.5"	13.5"	22.3	20.5
11	20:17	-19.8	9.67	-5.5	0.3	17.1"	15.5"	38.8"	13.6"	22.3	20.5
16	20:17	-19.9	9.59	-5.3	0.2	17.3"	15.6"	39.1"	13.7"	22.2	20.5
21	20:16	-19.9	9.52	-5.1	0.2	17.4"	15.8"	39.5"	13.9"	22.2	20.6
26	20:16	-19.9	9.44	-4.8	0.2	17.5"	15.9"	39.8"	14.0"	22.2	20.6
31	20:15	-19.9	9.38	-4.5	0.2	17.6"	16.0"	40.0"	14.1"	22.1	20.7

Juni 2020 (0^h UT)

Tag	α	δ	Δ	φ	m_v	$\varnothing_{\bar{A}}$	\varnothing_P	R- \varnothing_g	R- \varnothing_k	D_s	D_e
1	20:15	-20.0	9.36	-4.5	0.2	17.7"	16.0"	40.1"	14.2"	22.1	20.7
6	20:15	-20.0	9.30	-4.2	0.2	17.8"	16.1"	40.4"	14.3"	22.1	20.7
11	20:14	-20.1	9.24	-3.8	0.2	17.9"	16.2"	40.6"	14.4"	22.0	20.8
16	20:13	-20.1	9.19	-3.4	0.2	18.0"	16.3"	40.8"	14.6"	22.0	20.9
21	20:12	-20.2	9.15	-3.0	0.2	18.1"	16.4"	41.0"	14.7"	21.9	21.0
26	20:10	-20.3	9.11	-2.5	0.2	18.2"	16.5"	41.2"	14.8"	21.9	21.1

Juli 2020 (0^h UT)

Tag	α	δ	Δ	φ	m_v	$\varnothing_{\bar{A}}$	\varnothing_P	R- \varnothing_g	R- \varnothing_k	D_s	D_e
1	20:09	-20.3	9.07	-2.0	0.2	18.2"	16.5"	41.4"	15.0"	21.9	21.2
6	20:08	-20.4	9.05	-1.5	0.3	18.3"	16.6"	41.5"	15.1"	21.8	21.3
11	20:06	-20.5	9.03	-1.0	0.3	18.3"	16.6"	41.6"	15.2"	21.8	21.5
16	20:05	-20.6	9.02	-0.5	0.3	18.3"	16.7"	41.6"	15.3"	21.7	21.6
21	20:03	-20.7	9.01	0.0	0.3	18.4"	16.7"	41.6"	15.4"	21.7	21.7
26	20:02	-20.7	9.02	0.5	0.3	18.3"	16.7"	41.6"	15.5"	21.6	21.8
31	20:00	-20.8	9.03	1.0	0.4	18.3"	16.6"	41.6"	15.6"	21.6	22.0

August 2020 (0^h UT)

Tag	α	δ	Δ	φ	m_v	$\varnothing_{\bar{A}}$	\varnothing_P	R- \varnothing_g	R- \varnothing_k	D_s	D_e
1	20:00	-20.8	9.03	1.1	0.4	18.3"	16.6"	41.6"	15.6"	21.6	22.0
6	19:58	-20.9	9.05	1.6	0.4	18.3"	16.6"	41.5"	15.6"	21.6	22.1
11	19:57	-21.0	9.08	2.1	0.4	18.2"	16.6"	41.4"	15.6"	21.5	22.2
16	19:55	-21.1	9.11	2.6	0.4	18.2"	16.5"	41.2"	15.6"	21.5	22.3
21	19:54	-21.1	9.15	3.0	0.5	18.1"	16.4"	41.0"	15.6"	21.4	22.4
26	19:53	-21.2	9.20	3.5	0.5	18.0"	16.3"	40.8"	15.6"	21.4	22.5
31	19:52	-21.2	9.25	3.9	0.5	17.9"	16.3"	40.6"	15.6"	21.3	22.6

September 2020 (0^h UT)

Tag	α	δ	Δ	φ	m_v	$\varnothing_{\bar{A}}$	\varnothing_P	R- \varnothing_g	R- \varnothing_k	D_s	D_e
1	19:52	-21.2	9.26	3.9	0.5	17.9"	16.2"	40.5"	15.6"	21.3	22.6
6	19:51	-21.3	9.32	4.3	0.5	17.8"	16.1"	40.3"	15.5"	21.3	22.7
11	19:50	-21.3	9.38	4.6	0.6	17.6"	16.0"	40.0"	15.4"	21.2	22.7
16	19:50	-21.3	9.45	4.9	0.6	17.5"	15.9"	39.7"	15.4"	21.2	22.8
21	19:50	-21.4	9.53	5.1	0.6	17.4"	15.8"	39.4"	15.3"	21.2	22.8
26	19:49	-21.4	9.60	5.3	0.7	17.2"	15.7"	39.1"	15.2"	21.1	22.8

Saturn

Oktober 2020 (0^h UT)

Tag	α	δ	Δ	φ	m_v	$\varnothing_{\bar{A}}$	\varnothing_P	R- \varnothing_g	R- \varnothing_k	D_s	D_e
1	19:49	-21.4	9.68	5.5	0.7	17.1"	15.5"	38.8"	15.0"	21.1	22.8
6	19:49	-21.4	9.76	5.6	0.7	17.0"	15.4"	38.5"	14.9"	21.0	22.8
11	19:50	-21.4	9.84	5.7	0.7	16.8"	15.3"	38.1"	14.8"	21.0	22.8
16	19:50	-21.3	9.92	5.7	0.7	16.7"	15.2"	37.8"	14.6"	20.9	22.7
21	19:51	-21.3	10.01	5.7	0.8	16.5"	15.0"	37.5"	14.5"	20.9	22.7
26	19:52	-21.3	10.09	5.7	0.8	16.4"	14.9"	37.2"	14.3"	20.8	22.6
31	19:53	-21.2	10.17	5.6	0.8	16.3"	14.8"	36.9"	14.2"	20.8	22.6

November 2020 (0^h UT)

Tag	α	δ	Δ	φ	m_v	$\varnothing_{\bar{A}}$	\varnothing_P	R- \varnothing_g	R- \varnothing_k	D_s	D_e
1	19:53	-21.2	10.19	5.5	0.8	16.2"	14.8"	36.9"	14.1"	20.8	22.6
6	19:54	-21.2	10.27	5.4	0.8	16.1"	14.6"	36.6"	14.0"	20.7	22.5
11	19:56	-21.1	10.34	5.3	0.8	16.0"	14.5"	36.3"	13.8"	20.7	22.4
16	19:57	-21.1	10.42	5.1	0.8	15.9"	14.4"	36.0"	13.7"	20.7	22.3
21	19:59	-21.0	10.49	4.8	0.8	15.8"	14.3"	35.8"	13.5"	20.6	22.2
26	20:00	-20.9	10.56	4.6	0.8	15.7"	14.2"	35.5"	13.3"	20.6	22.0

Dezember 2020 (0^h UT)

Tag	α	δ	Δ	φ	m_v	$\varnothing_{\bar{A}}$	\varnothing_P	R- \varnothing_g	R- \varnothing_k	D_s	D_e
1	20:02	-20.8	10.63	4.3	0.8	15.6"	14.1"	35.3"	13.2"	20.5	21.9
6	20:04	-20.7	10.69	4.0	0.8	15.5"	14.1"	35.1"	13.0"	20.5	21.8
11	20:06	-20.6	10.74	3.6	0.8	15.4"	14.0"	34.9"	12.9"	20.4	21.6
16	20:08	-20.5	10.79	3.3	0.8	15.3"	13.9"	34.8"	12.7"	20.4	21.5
21	20:11	-20.4	10.84	2.9	0.8	15.3"	13.9"	34.6"	12.6"	20.3	21.3
26	20:13	-20.3	10.88	2.5	0.8	15.2"	13.8"	34.5"	12.4"	20.3	21.1
31	20:15	-20.2	10.91	2.1	0.8	15.2"	13.7"	34.4"	12.3"	20.2	20.9