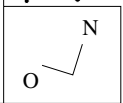
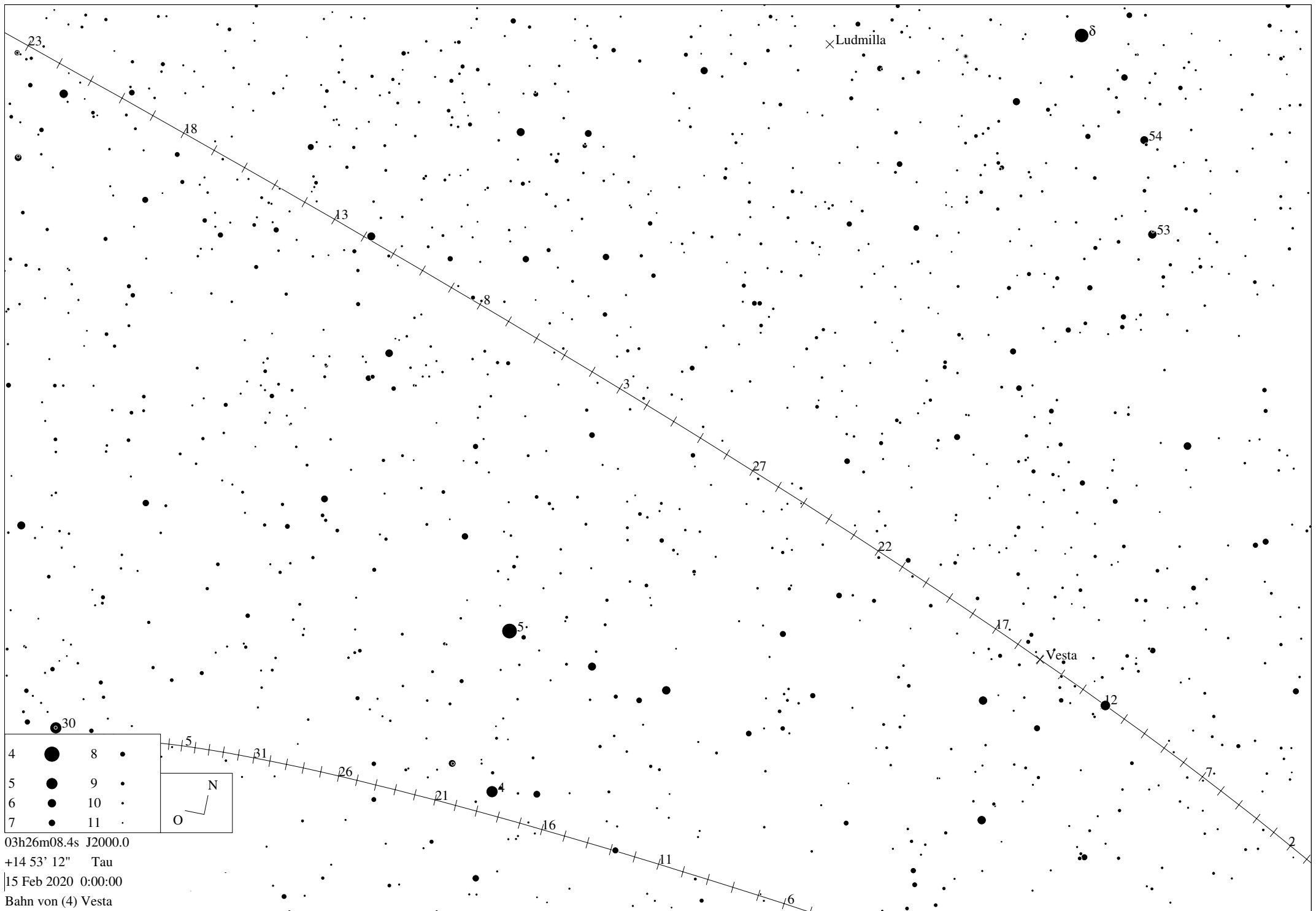
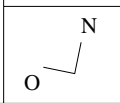


4		8	
5		9	
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7		11	

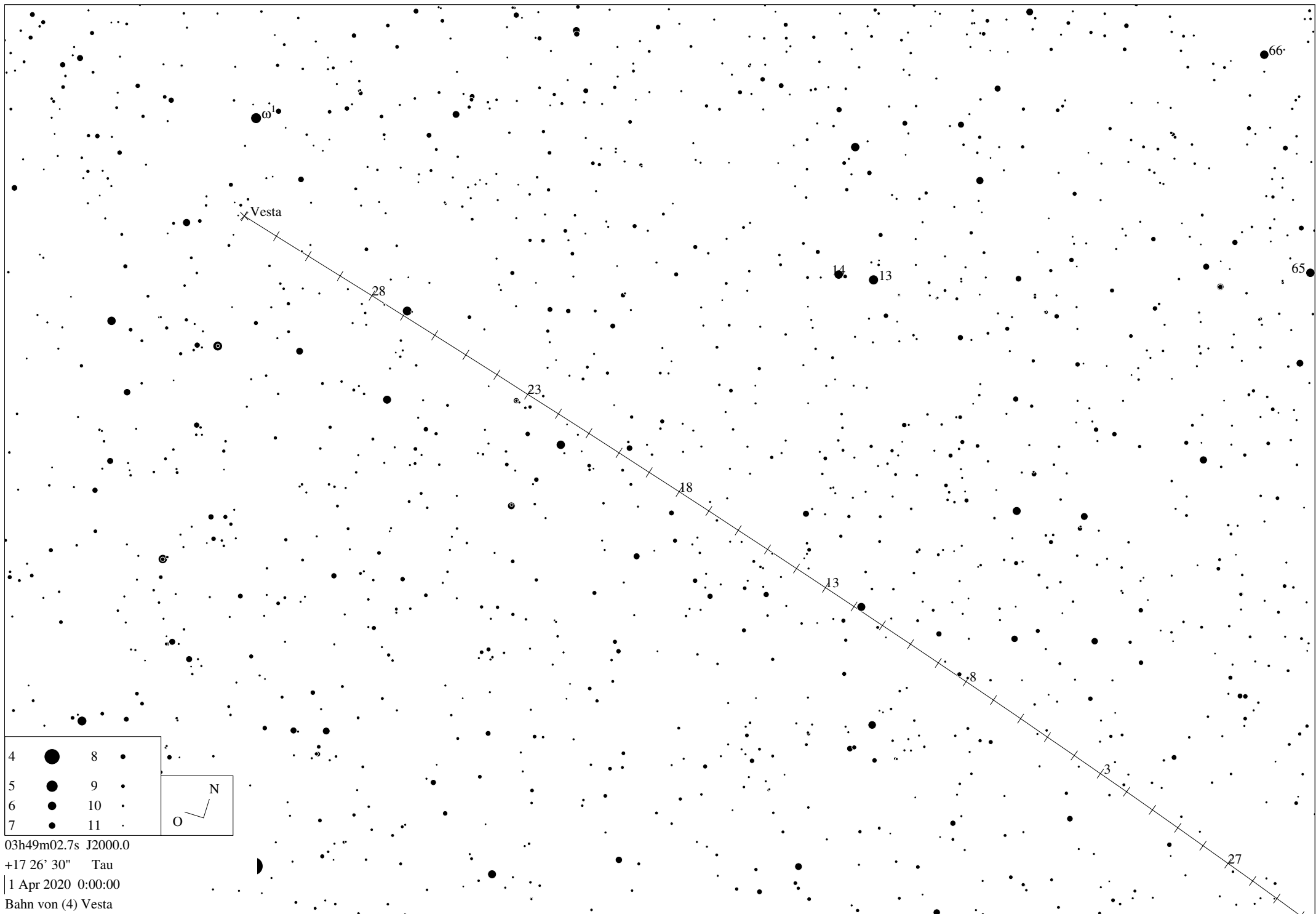




4		8	
5		9	
6		10	
7		11	



03h26m08.4s J2000.0
+14 53' 12" Tau
15 Feb 2020 0:00:00
Bahn von (4) Vesta



Ephemeride des Kleinplaneten (4) Vesta

Datum	RA	Deklination	r	delta	mag	Elong	Phase	Höhe	Az.	Gesch.	PA	Stb
1 Aug 2019	03h12m22.38s	+10 31' 02.9"	2.4847	2.4559	8.0	79.7	23.7	11.29	87.19	43.13	80.3	Ari
2 Aug 2019	03h13m31.41s	+10 33' 52.0"	2.4855	2.4442	8.0	80.4	23.7	11.76	87.71	42.61	80.5	Ari
3 Aug 2019	03h14m39.64s	+10 36' 35.2"	2.4862	2.4326	8.0	81.1	23.8	12.22	88.23	42.08	80.7	Ari
4 Aug 2019	03h15m47.08s	+10 39' 12.7"	2.4870	2.4209	8.0	81.7	23.8	12.69	88.75	41.54	80.9	Ari
5 Aug 2019	03h16m53.71s	+10 41' 44.3"	2.4877	2.4091	8.0	82.4	23.8	13.16	89.28	40.99	81.2	Ari
6 Aug 2019	03h17m59.52s	+10 44' 10.3"	2.4885	2.3974	8.0	83.1	23.9	13.63	89.82	40.44	81.4	Ari
7 Aug 2019	03h19m04.49s	+10 46' 30.4"	2.4892	2.3856	8.0	83.8	23.9	14.10	90.35	39.87	81.6	Ari
8 Aug 2019	03h20m08.60s	+10 48' 44.8"	2.4900	2.3738	8.0	84.5	23.9	14.57	90.90	39.30	81.8	Ari
9 Aug 2019	03h21m11.85s	+10 50' 53.5"	2.4907	2.3620	8.0	85.2	23.9	15.05	91.44	38.73	82.1	Ari
10 Aug 2019	03h22m14.21s	+10 52' 56.4"	2.4914	2.3502	7.9	85.9	23.9	15.52	92.00	38.14	82.3	Ari
11 Aug 2019	03h23m15.67s	+10 54' 53.5"	2.4922	2.3384	7.9	86.6	24.0	15.99	92.56	37.54	82.6	Ari
12 Aug 2019	03h24m16.22s	+10 56' 45.0"	2.4929	2.3265	7.9	87.3	24.0	16.47	93.12	36.94	82.8	Tau
13 Aug 2019	03h25m15.85s	+10 58' 30.6"	2.4936	2.3146	7.9	88.0	24.0	16.95	93.69	36.33	83.1	Tau
14 Aug 2019	03h26m14.52s	+11 00' 10.6"	2.4944	2.3027	7.9	88.7	24.0	17.42	94.26	35.71	83.3	Tau
15 Aug 2019	03h27m12.23s	+11 01' 44.8"	2.4951	2.2909	7.9	89.4	24.0	17.90	94.85	35.07	83.6	Tau
16 Aug 2019	03h28m08.96s	+11 03' 13.3"	2.4958	2.2790	7.9	90.1	23.9	18.38	95.43	34.43	83.9	Tau
17 Aug 2019	03h29m04.69s	+11 04' 36.1"	2.4965	2.2670	7.9	90.8	23.9	18.86	96.03	33.78	84.2	Tau
18 Aug 2019	03h29m59.41s	+11 05' 53.2"	2.4973	2.2551	7.9	91.6	23.9	19.34	96.63	33.12	84.5	Tau
19 Aug 2019	03h30m53.09s	+11 07' 04.5"	2.4980	2.2432	7.8	92.3	23.9	19.82	97.23	32.45	84.8	Tau
20 Aug 2019	03h31m45.71s	+11 08' 10.1"	2.4987	2.2313	7.8	93.1	23.9	20.30	97.85	31.76	85.1	Tau
21 Aug 2019	03h32m37.25s	+11 09' 10.0"	2.4994	2.2194	7.8	93.8	23.8	20.79	98.47	31.07	85.4	Tau
22 Aug 2019	03h33m27.70s	+11 10' 04.2"	2.5001	2.2075	7.8	94.5	23.8	21.27	99.10	30.36	85.8	Tau
23 Aug 2019	03h34m17.03s	+11 10' 52.6"	2.5008	2.1956	7.8	95.3	23.7	21.76	99.73	29.64	86.1	Tau
24 Aug 2019	03h35m05.21s	+11 11' 35.4"	2.5015	2.1837	7.8	96.1	23.7	22.24	100.38	28.91	86.5	Tau
25 Aug 2019	03h35m52.24s	+11 12' 12.4"	2.5022	2.1718	7.8	96.8	23.7	22.73	101.03	28.17	86.9	Tau
26 Aug 2019	03h36m38.09s	+11 12' 43.7"	2.5029	2.1600	7.8	97.6	23.6	23.21	101.69	27.42	87.3	Tau
27 Aug 2019	03h37m22.72s	+11 13' 09.3"	2.5036	2.1481	7.7	98.4	23.5	23.70	102.36	26.65	87.7	Tau
28 Aug 2019	03h38m06.13s	+11 13' 29.2"	2.5043	2.1363	7.7	99.2	23.5	24.19	103.04	25.87	88.2	Tau
29 Aug 2019	03h38m48.29s	+11 13' 43.4"	2.5049	2.1245	7.7	99.9	23.4	24.68	103.73	25.08	88.7	Tau
30 Aug 2019	03h39m29.18s	+11 13' 51.9"	2.5056	2.1127	7.7	100.7	23.3	25.17	104.43	24.28	89.2	Tau
31 Aug 2019	03h40m08.77s	+11 13' 54.8"	2.5063	2.1009	7.7	101.5	23.2	25.66	105.13	23.47	89.7	Tau
1 Sep 2019	03h40m47.05s	+11 13' 52.0"	2.5070	2.0892	7.7	102.3	23.2	26.15	105.85	22.65	90.3	Tau
2 Sep 2019	03h41m23.99s	+11 13' 43.7"	2.5076	2.0775	7.7	103.1	23.1	26.64	106.58	21.81	91.0	Tau
3 Sep 2019	03h41m59.59s	+11 13' 29.7"	2.5083	2.0659	7.7	104.0	23.0	27.13	107.32	20.98	91.6	Tau
4 Sep 2019	03h42m33.81s	+11 13' 10.3"	2.5090	2.0543	7.6	104.8	22.9	27.62	108.06	20.13	92.3	Tau
5 Sep 2019	03h43m06.65s	+11 12' 45.4"	2.5096	2.0427	7.6	105.6	22.8	28.11	108.83	19.27	93.1	Tau
6 Sep 2019	03h43m38.08s	+11 12' 15.0"	2.5103	2.0312	7.6	106.4	22.7	28.60	109.60	18.41	94.0	Tau
7 Sep 2019	03h44m08.09s	+11 11' 39.2"	2.5110	2.0197	7.6	107.3	22.5	29.09	110.38	17.54	94.9	Tau
8 Sep 2019	03h44m36.66s	+11 10' 58.1"	2.5116	2.0083	7.6	108.1	22.4	29.58	111.18	16.67	95.9	Tau
9 Sep 2019	03h45m03.77s	+11 10' 11.7"	2.5123	1.9969	7.6	109.0	22.3	30.07	111.99	15.79	97.1	Tau
10 Sep 2019	03h45m29.40s	+11 09' 20.0"	2.5129	1.9856	7.5	109.8	22.1	30.56	112.81	14.91	98.4	Tau
11 Sep 2019	03h45m53.53s	+11 08' 23.0"	2.5136	1.9744	7.5	110.7	22.0	31.05	113.65	14.02	99.8	Tau
12 Sep 2019	03h46m16.14s	+11 07' 20.9"	2.5142	1.9632	7.5	111.6	21.9	31.54	114.50	13.13	101.4	Tau
13 Sep 2019	03h46m37.23s	+11 06' 13.6"	2.5148	1.9521	7.5	112.5	21.7	32.02	115.36	12.24	103.3	Tau
14 Sep 2019	03h46m56.76s	+11 05' 01.3"	2.5155	1.9411	7.5	113.3	21.5	32.51	116.24	11.35	105.5	Tau
15 Sep 2019	03h47m14.71s	+11 03' 43.8"	2.5161	1.9302	7.5	114.2	21.4	32.99	117.13	10.48	108.0	Tau
16 Sep 2019	03h47m31.08s	+11 02' 21.4"	2.5167	1.9193	7.5	115.1	21.2	33.47	118.04	9.61	111.0	Tau
17 Sep 2019	03h47m45.83s	+11 00' 53.9"	2.5173	1.9085	7.4	116.0	21.0	33.95	118.97	8.77	114.7	Tau
18 Sep 2019	03h47m58.96s	+10 59' 21.6"	2.5180	1.8978	7.4	116.9	20.8	34.43	119.91	7.95	119.1	Tau
19 Sep 2019	03h48m10.44s	+10 57' 44.4"	2.5186	1.8872	7.4	117.9	20.7	34.91	120.87	7.19	124.5	Tau
20 Sep 2019	03h48m20.26s	+10 56' 02.4"	2.5192	1.8766	7.4	118.8	20.5	35.38	121.84	6.49	131.1	Tau
21 Sep 2019	03h48m28.39s	+10 54' 15.6"	2.5198	1.8662	7.4	119.7	20.3	35.85	122.84	5.89	139.3	Tau
22 Sep 2019	03h48m34.83s	+10 52' 24.1"	2.5204	1.8559	7.4	120.7	20.0	36.32	123.85	5.43	149.2	Tau
23 Sep 2019	03h48m39.55s	+10 50' 28.0"	2.5210	1.8457	7.3	121.6	19.8	36.78	124.88	5.15	160.6	Tau
24 Sep 2019	03h48m42.53s	+10 48' 27.3"	2.5216	1.8356	7.3	122.6	19.6	37.24	125.93	5.09	172.9	Tau
25 Sep 2019	03h48m43.78s	+10 46' 22.1"	2.5222	1.8256	7.3	123.5	19.4	37.70	127.00	5.25	185.0	Tau
26 Sep 2019	03h48m43.26s	+10 44' 12.5"	2.5228	1.8157	7.3	124.5	19.1	38.15	128.09	5.64	195.9	Tau
27 Sep 2019	03h48m40.97s	+10 41' 58.6"	2.5234	1.8059	7.3	125.5	18.9	38.60	129.20	6.19	205.3	Tau
28 Sep 2019	03h48m36.91s	+10 39' 40.4"	2.5240	1.7963	7.2	126.4	18.6	39.04	130.33	6.89	213.0	Tau
29 Sep 2019	03h48m31.05s	+10 37' 18.1"	2.5246	1.7868	7.2	127.4	18.4	39.48	131.48	7.68	219.3	Tau
30 Sep 2019	03h48m23.41s	+10 34' 51.8"	2.5252	1.7775	7.2	128.4	18.1	39.91	132.66	8.55	224.3	Tau
1 Okt 2019	03h48m13.98s	+10 32' 21.6"	2.5257	1.7683	7.2	129.4	17.8	40.33	133.85	9.47	228.5	Tau
2 Okt 2019	03h48m02.75s	+10 29' 47.7"	2.5263	1.7592	7.2	130.4	17.6	40.75	135.07	10.42	231.9	Tau
3 Okt 2019	03h47m49.74s	+10 27' 10.2"	2.5269	1.7503	7.2	131.5	17.3	41.15	136.31	11.40	234.7	Tau
4 Okt 2019	03h47m34.93s	+10 24' 29.1"	2.5275	1.7415	7.1	132.5	17.0	41.55	137.58	12.40	237.2	Tau
5 Okt 2019	03h47m18.34s	+10 21' 44.7"	2.5280	1.7329	7.1	133.5	16.7	41.95	138.87	13.42	239.2	Tau
6 Okt 2019	03h46m59.97s	+10 18' 57.1"	2.5286	1.7245	7.1	134.6	16.4	42.33	140.18	14.44	241.0	Tau
7 Okt 2019	03h46m39.83s	+10 16' 06.4"	2.5291	1.7162	7.1	135.6	16.1	42.70	141.52	15.47	242.6	Tau
8 Okt 2019	03h46m17.92s	+10 13' 12.8"	2.5297	1.7081	7.1	136.7	15.7	43.06	142.88	16.50	243.9	Tau
9 Okt 2019	03h45m54.26s	+10 10' 16.5"	2.5302	1.7002	7.0	137.7	15.4	43.42	144.26	17.53	245.2	Tau
10 Okt 2019	03h45m28.86s	+10 07' 17.5"	2.5308	1.6925	7.0	138.8	15.1	43.76	145.67	18.56	246.3	Tau
11 Okt 2019	03h45m01.72s	+10 04' 16.1"	2.5313	1.6849	7.0	139.8	14.7	44.08	147.10	19.58	247.3	Tau
12 Okt 2019	03h44m32.87s	+10 01' 12.3"	2.5319	1.6776	7.0	140.9	14.4	44.40	148.56	20.60	248.2	Tau
13 Okt 2019	03h44m02.32s	+09 58' 06.5"	2.5324	1.6704	7.0	142.0	14.0	44.70	150.04	21.61	249.0	Tau

Ephemeride des Kleinplaneten (4) Vesta

Datum	RA	Deklination	r	delta	mag	Elong	Phase	Höhe	Az.	Gesch.	PA	Stb
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14 Okt 2019	03h43m30.09s	+09 54' 58.7"	2.5330	1.6634	7.0	143.1	13.7	44.99	151.54	22.61	249.7	Tau
15 Okt 2019	03h42m56.19s	+09 51' 49.1"	2.5335	1.6567	6.9	144.2	13.3	45.26	153.07	23.60	250.4	Tau
16 Okt 2019	03h42m20.66s	+09 48' 37.9"	2.5340	1.6501	6.9	145.3	13.0	45.52	154.62	24.58	251.1	Tau
17 Okt 2019	03h41m43.50s	+09 45' 25.2"	2.5345	1.6438	6.9	146.4	12.6	45.76	156.19	25.55	251.7	Tau
18 Okt 2019	03h41m04.76s	+09 42' 11.4"	2.5351	1.6376	6.9	147.5	12.2	45.98	157.79	26.49	252.2	Tau
19 Okt 2019	03h40m24.45s	+09 38' 56.5"	2.5356	1.6317	6.9	148.6	11.8	46.19	159.40	27.43	252.8	Tau
20 Okt 2019	03h39m42.61s	+09 35' 40.8"	2.5361	1.6260	6.8	149.7	11.4	46.38	161.03	28.34	253.3	Tau
21 Okt 2019	03h38m59.27s	+09 32' 24.4"	2.5366	1.6206	6.8	150.8	11.0	46.55	162.69	29.23	253.7	Tau
22 Okt 2019	03h38m14.47s	+09 29' 07.7"	2.5371	1.6153	6.8	151.9	10.7	46.70	164.36	30.09	254.2	Tau
23 Okt 2019	03h37m28.25s	+09 25' 50.7"	2.5376	1.6103	6.8	153.0	10.3	46.83	166.04	30.94	254.6	Tau
24 Okt 2019	03h36m40.64s	+09 22' 33.9"	2.5381	1.6056	6.8	154.1	9.9	46.95	167.75	31.75	255.0	Tau
25 Okt 2019	03h35m51.70s	+09 19' 17.3"	2.5386	1.6011	6.7	155.2	9.5	47.04	169.46	32.53	255.4	Tau
26 Okt 2019	03h35m01.47s	+09 16' 01.3"	2.5391	1.5968	6.7	156.3	9.0	47.11	171.19	33.29	255.8	Tau
27 Okt 2019	03h34m10.01s	+09 12' 46.2"	2.5396	1.5928	6.7	157.4	8.6	47.16	172.94	34.00	256.2	Tau
28 Okt 2019	03h33m17.38s	+09 09' 32.1"	2.5401	1.5891	6.7	158.5	8.2	47.18	174.69	34.69	256.5	Tau
29 Okt 2019	03h32m23.62s	+09 06' 19.4"	2.5405	1.5856	6.7	159.6	7.8	47.19	176.45	35.33	256.9	Tau
30 Okt 2019	03h31m28.81s	+09 03' 08.4"	2.5410	1.5824	6.6	160.7	7.4	47.17	178.21	35.93	257.2	Tau
31 Okt 2019	03h30m33.01s	+08 59' 59.3"	2.5415	1.5794	6.6	161.7	7.0	47.13	179.98	36.50	257.6	Tau
1 Nov 2019	03h29m36.29s	+08 56' 52.5"	2.5420	1.5767	6.6	162.8	6.6	47.07	181.75	37.02	257.9	Tau
2 Nov 2019	03h28m38.70s	+08 53' 48.1"	2.5424	1.5743	6.6	163.8	6.3	46.98	183.53	37.49	258.2	Tau
3 Nov 2019	03h27m40.33s	+08 50' 46.6"	2.5429	1.5721	6.6	164.8	5.9	46.87	185.30	37.93	258.6	Tau
4 Nov 2019	03h26m41.23s	+08 47' 48.1"	2.5434	1.5702	6.6	165.7	5.5	46.74	187.07	38.32	258.9	Tau
5 Nov 2019	03h25m41.48s	+08 44' 52.9"	2.5438	1.5686	6.5	166.6	5.2	46.59	188.83	38.67	259.2	Tau
6 Nov 2019	03h24m41.15s	+08 42' 01.3"	2.5443	1.5673	6.5	167.5	4.9	46.41	190.59	38.97	259.5	Tau
7 Nov 2019	03h23m40.31s	+08 39' 13.6"	2.5447	1.5663	6.5	168.2	4.6	46.21	192.34	39.23	259.8	Cet
8 Nov 2019	03h22m39.03s	+08 36' 30.0"	2.5452	1.5655	6.5	168.9	4.3	45.99	194.08	39.44	260.1	Cet
9 Nov 2019	03h21m37.38s	+08 33' 50.8"	2.5456	1.5650	6.5	169.5	4.1	45.75	195.82	39.61	260.4	Cet
10 Nov 2019	03h20m35.45s	+08 31' 16.2"	2.5460	1.5648	6.5	170.0	3.9	45.49	197.53	39.73	260.8	Cet
11 Nov 2019	03h19m33.29s	+08 28' 46.5"	2.5465	1.5649	6.5	170.3	3.8	45.21	199.24	39.80	261.1	Cet
12 Nov 2019	03h18m30.99s	+08 26' 21.9"	2.5469	1.5653	6.5	170.5	3.7	44.91	200.93	39.83	261.4	Cet
13 Nov 2019	03h17m28.62s	+08 24' 02.7"	2.5473	1.5659	6.5	170.5	3.7	44.58	202.61	39.82	261.7	Cet
14 Nov 2019	03h16m26.24s	+08 21' 49.0"	2.5478	1.5669	6.5	170.3	3.7	44.24	204.26	39.76	262.0	Cet
15 Nov 2019	03h15m23.94s	+08 19' 41.2"	2.5482	1.5681	6.5	170.0	3.9	43.88	205.91	39.65	262.4	Cet
16 Nov 2019	03h14m21.77s	+08 17' 39.4"	2.5486	1.5696	6.5	169.6	4.0	43.51	207.53	39.50	262.7	Cet
17 Nov 2019	03h13m19.83s	+08 15' 43.8"	2.5490	1.5713	6.5	169.0	4.3	43.11	209.13	39.31	263.1	Cet
18 Nov 2019	03h12m18.17s	+08 13' 54.6"	2.5494	1.5734	6.5	168.3	4.5	42.70	210.71	39.07	263.4	Cet
19 Nov 2019	03h11m16.88s	+08 12' 12.2"	2.5498	1.5757	6.5	167.5	4.8	42.28	212.28	38.78	263.8	Cet
20 Nov 2019	03h10m16.01s	+08 10' 36.5"	2.5502	1.5784	6.6	166.7	5.1	41.83	213.82	38.46	264.2	Cet
21 Nov 2019	03h09m15.65s	+08 09' 08.0"	2.5506	1.5813	6.6	165.8	5.5	41.38	215.34	38.09	264.6	Cet
22 Nov 2019	03h08m15.86s	+08 07' 46.6"	2.5510	1.5845	6.6	164.8	5.8	40.91	216.84	37.67	265.0	Cet
23 Nov 2019	03h07m16.72s	+08 06' 32.7"	2.5514	1.5879	6.6	163.8	6.2	40.43	218.31	37.21	265.4	Cet
24 Nov 2019	03h06m18.30s	+08 05' 26.4"	2.5518	1.5917	6.6	162.8	6.6	39.93	219.77	36.71	265.8	Cet
25 Nov 2019	03h05m19.66s	+08 04' 27.9"	2.5522	1.5957	6.7	161.8	6.9	39.43	221.20	36.17	266.3	Cet
26 Nov 2019	03h04m23.87s	+08 03' 37.4"	2.5526	1.6000	6.7	160.7	7.3	38.91	222.61	35.59	266.8	Cet
27 Nov 2019	03h03m28.00s	+08 02' 54.9"	2.5529	1.6045	6.7	159.6	7.7	38.39	224.00	34.97	267.3	Cet
28 Nov 2019	03h02m33.11s	+08 02' 20.7"	2.5533	1.6093	6.7	158.5	8.1	37.85	225.37	34.32	267.8	Cet
29 Nov 2019	03h01m39.26s	+08 01' 54.8"	2.5537	1.6144	6.7	157.4	8.5	37.31	226.72	33.63	268.3	Cet
30 Nov 2019	03h00m46.51s	+08 01' 37.4"	2.5540	1.6198	6.8	156.3	8.9	36.76	228.05	32.91	268.9	Cet
1 Dez 2019	02h59m54.91s	+08 01' 28.5"	2.5544	1.6254	6.8	155.2	9.3	36.20	229.35	32.16	269.5	Cet
2 Dez 2019	02h59m04.52s	+08 01' 28.2"	2.5548	1.6312	6.8	154.1	9.7	35.64	230.64	31.38	270.2	Cet
3 Dez 2019	02h58m15.39s	+08 01' 36.6"	2.5551	1.6373	6.8	153.0	10.1	35.07	231.90	30.58	270.8	Cet
4 Dez 2019	02h57m27.55s	+08 01' 53.8"	2.5555	1.6437	6.8	151.8	10.5	34.49	233.15	29.75	271.6	Cet
5 Dez 2019	02h56m41.06s	+08 02' 19.7"	2.5558	1.6503	6.9	150.7	10.9	33.91	234.37	28.90	272.3	Cet
6 Dez 2019	02h55m55.95s	+08 02' 54.4"	2.5561	1.6571	6.9	149.6	11.3	33.33	235.58	28.04	273.2	Cet
7 Dez 2019	02h55m12.26s	+08 03' 37.9"	2.5565	1.6642	6.9	148.5	11.6	32.74	236.77	27.15	274.0	Cet
8 Dez 2019	02h54m30.02s	+08 04' 30.2"	2.5568	1.6715	6.9	147.4	12.0	32.15	237.93	26.26	275.0	Cet
9 Dez 2019	02h53m49.27s	+08 05' 31.3"	2.5571	1.6790	7.0	146.2	12.4	31.56	239.09	25.35	276.0	Cet
10 Dez 2019	02h53m10.03s	+08 06' 41.2"	2.5575	1.6868	7.0	145.1	12.7	30.96	240.22	24.44	277.1	Cet
11 Dez 2019	02h52m32.33s	+08 07' 59.8"	2.5578	1.6947	7.0	144.0	13.1	30.36	241.34	23.51	278.2	Cet
12 Dez 2019	02h51m56.20s	+08 09' 27.1"	2.5581	1.7029	7.0	142.9	13.4	29.77	242.44	22.59	279.5	Cet
13 Dez 2019	02h51m21.65s	+08 11' 03.1"	2.5584	1.7113	7.0	141.8	13.8	29.17	243.52	21.66	280.9	Cet
14 Dez 2019	02h50m48.71s	+08 12' 47.6"	2.5587	1.7199	7.1	140.7	14.1	28.57	244.59	20.74	282.4	Cet
15 Dez 2019	02h50m17.39s	+08 14' 40.7"	2.5591	1.7287	7.1	139.6	14.4	27.97	245.65	19.82	284.0	Cet
16 Dez 2019	02h49m47.71s	+08 16' 42.3"	2.5594	1.7377	7.1	138.5	14.8	27.38	246.69	18.91	285.8	Cet
17 Dez 2019	02h49m19.69s	+08 18' 52.3"	2.5597	1.7468	7.1	137.4	15.1	26.78	247.71	18.00	287.8	Cet
18 Dez 2019	02h48m53.33s	+08 21' 10.6"	2.5600	1.7562	7.1	136.3	15.4	26.18	248.73	17.12	289.9	Cet
19 Dez 2019	02h48m28.66s	+08 23' 37.2"	2.5602	1.7658	7.2	135.3	15.7	25.59	249.73	16.25	292.3	Cet
20 Dez 2019	02h48m05.69s	+08 26' 11.9"	2.5605	1.7755	7.2	134.2	16.0	25.00	250.71	15.41	295.0	Cet
21 Dez 2019	02h47m44.41s	+08 28' 54.9"	2.5608	1.7854	7.2	133.1	16.3	24.41	251.69	14.60	298.0	Cet
22 Dez 2019	02h47m24.85s	+08 31' 45.8"	2.5611	1.7955	7.2	132.1	16.6	23.82	252.65	13.83	301.3	Cet
23 Dez 2019	02h47m07.01s	+08 34' 44.7"	2.5614	1.8058	7.2	131.0	16.8	23.23	253.60	13.10	305.0	Cet
24 Dez 2019	02h46m50.90s	+08 37' 51.5"	2.5617	1.8162	7.3	130.0	17.1	22.65	254.53	12.43	309.1	Cet
25 Dez 2019	02h46m36.51s	+08 41' 06.1"	2.5619	1.8268	7.3	128.9	17.4	22.07	255.46	11.83	313.6	Cet
26 Dez 2019	02h46m23.86s	+08 44' 28.3"	2.5622	1.8375	7.3	127.9	17.6	21.49	256.38	11.30	318.6	Cet

Ephemeride des Kleinplaneten (4) Vesta

Datum	RA	Deklination	r	delta	mag	Elong	Phase	Höhe	Az.	Gesch.	PA	Stb
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27 Dez 2019	02h46m12.94s	+08 47' 58.1"	2.5624	1.8484	7.3	126.9	17.9	20.92	257.28	10.87	324.0	Cet
28 Dez 2019	02h46m03.75s	+08 51' 35.3"	2.5627	1.8594	7.3	125.9	18.1	20.35	258.18	10.53	329.7	Cet
29 Dez 2019	02h45m56.28s	+08 55' 19.8"	2.5630	1.8706	7.4	124.9	18.4	19.79	259.07	10.30	335.8	Cet
30 Dez 2019	02h45m50.54s	+08 59' 11.6"	2.5632	1.8819	7.4	123.8	18.6	19.23	259.94	10.19	342.0	Cet
31 Dez 2019	02h45m46.51s	+09 03' 10.3"	2.5635	1.8933	7.4	122.8	18.8	18.67	260.81	10.20	348.2	Cet
1 Jan 2020	02h45m44.18s	+09 07' 16.0"	2.5637	1.9049	7.4	121.9	19.0	18.12	261.67	10.32	354.3	Cet
2 Jan 2020	02h45m43.54s	+09 11' 28.5"	2.5639	1.9166	7.4	120.9	19.2	17.57	262.52	10.55	0.2	Cet
3 Jan 2020	02h45m44.59s	+09 15' 47.6"	2.5642	1.9284	7.5	119.9	19.4	17.02	263.37	10.87	5.7	Cet
4 Jan 2020	02h45m47.31s	+09 20' 13.1"	2.5644	1.9403	7.5	118.9	19.6	16.48	264.20	11.28	10.8	Cet
5 Jan 2020	02h45m51.68s	+09 24' 45.0"	2.5646	1.9523	7.5	117.9	19.8	15.95	265.03	11.77	15.5	Cet
6 Jan 2020	02h45m57.70s	+09 29' 23.0"	2.5649	1.9644	7.5	117.0	20.0	15.42	265.85	12.32	19.8	Cet
7 Jan 2020	02h46m05.34s	+09 34' 07.1"	2.5651	1.9766	7.5	116.0	20.1	14.89	266.66	12.93	23.6	Cet
8 Jan 2020	02h46m14.60s	+09 38' 57.1"	2.5653	1.9889	7.5	115.1	20.3	14.37	267.46	13.57	27.1	Cet
9 Jan 2020	02h46m25.45s	+09 43' 52.7"	2.5655	2.0013	7.6	114.1	20.5	13.86	268.26	14.25	30.2	Cet
10 Jan 2020	02h46m37.88s	+09 48' 54.0"	2.5657	2.0138	7.6	113.2	20.6	13.35	269.06	14.96	33.0	Cet
11 Jan 2020	02h46m51.87s	+09 54' 00.6"	2.5659	2.0264	7.6	112.3	20.8	12.84	269.84	15.68	35.5	Cet
12 Jan 2020	02h47m07.41s	+09 59' 12.5"	2.5661	2.0390	7.6	111.4	20.9	12.34	270.62	16.43	37.8	Cet
13 Jan 2020	02h47m24.48s	+10 04' 29.5"	2.5663	2.0518	7.6	110.4	21.0	11.85	271.40	17.18	39.8	Cet
14 Jan 2020	02h47m43.06s	+10 09' 51.5"	2.5665	2.0646	7.7	109.5	21.2	11.36	272.16	17.95	41.7	Cet
15 Jan 2020	02h48m03.13s	+10 15' 18.3"	2.5667	2.0775	7.7	108.6	21.3	10.87	272.93	18.72	43.4	Cet
16 Jan 2020	02h48m24.69s	+10 20' 49.8"	2.5669	2.0904	7.7	107.7	21.4	10.39	273.68	19.49	45.0	Cet
17 Jan 2020	02h48m47.72s	+10 26' 25.9"	2.5671	2.1034	7.7	106.8	21.5	9.92	274.44	20.27	46.4	Ari
18 Jan 2020	02h49m12.20s	+10 32' 06.5"	2.5672	2.1165	7.7	105.9	21.6	9.45	275.18	21.05	47.7	Ari
19 Jan 2020	02h49m38.12s	+10 37' 51.4"	2.5674	2.1296	7.7	105.1	21.7	8.99	275.93	21.83	48.9	Ari
20 Jan 2020	02h50m05.46s	+10 43' 40.5"	2.5676	2.1428	7.8	104.2	21.8	8.53	276.67	22.60	50.1	Ari
21 Jan 2020	02h50m34.21s	+10 49' 33.6"	2.5677	2.1560	7.8	103.3	21.9	8.07	277.40	23.37	51.1	Ari
22 Jan 2020	02h51m04.35s	+10 55' 30.7"	2.5679	2.1693	7.8	102.4	22.0	7.63	278.13	24.14	52.1	Ari
23 Jan 2020	02h51m35.87s	+11 01' 31.6"	2.5681	2.1826	7.8	101.6	22.1	7.18	278.85	24.91	53.0	Ari
24 Jan 2020	02h52m08.74s	+11 07' 36.2"	2.5682	2.1959	7.8	100.7	22.1	6.75	279.57	25.66	53.8	Ari
25 Jan 2020	02h52m42.96s	+11 13' 44.3"	2.5684	2.2093	7.8	99.9	22.2	6.32	280.29	26.41	54.6	Ari
26 Jan 2020	02h53m18.51s	+11 19' 55.9"	2.5685	2.2227	7.8	99.0	22.2	5.89	281.00	27.15	55.4	Ari
27 Jan 2020	02h53m55.37s	+11 26' 10.7"	2.5686	2.2362	7.9	98.2	22.3	5.47	281.71	27.89	56.1	Ari
28 Jan 2020	02h54m33.51s	+11 32' 28.7"	2.5688	2.2497	7.9	97.4	22.3	5.05	282.42	28.61	56.7	Ari
29 Jan 2020	02h55m12.93s	+11 38' 49.7"	2.5689	2.2632	7.9	96.5	22.4	4.64	283.12	29.32	57.4	Ari
30 Jan 2020	02h55m53.60s	+11 45' 13.5"	2.5690	2.2767	7.9	95.7	22.4	4.24	283.82	30.03	58.0	Ari
31 Jan 2020	02h56m35.51s	+11 51' 40.1"	2.5692	2.2902	7.9	94.9	22.5	3.84	284.52	30.72	58.5	Ari
1 Feb 2020	02h57m18.63s	+11 58' 09.4"	2.5693	2.3037	7.9	94.1	22.5	3.44	285.21	31.41	59.1	Ari
2 Feb 2020	02h58m02.96s	+12 04' 41.0"	2.5694	2.3173	7.9	93.3	22.5	3.05	285.90	32.08	59.6	Ari
3 Feb 2020	02h58m48.46s	+12 11' 15.1"	2.5695	2.3308	8.0	92.5	22.5	2.67	286.58	32.74	60.0	Ari
4 Feb 2020	02h59m35.12s	+12 17' 51.3"	2.5696	2.3444	8.0	91.7	22.5	2.29	287.27	33.39	60.5	Ari
5 Feb 2020	03h00m22.93s	+12 24' 29.6"	2.5697	2.3580	8.0	90.9	22.6	1.92	287.95	34.03	61.0	Ari
6 Feb 2020	03h01m11.86s	+12 31' 09.9"	2.5698	2.3715	8.0	90.1	22.6	1.55	288.62	34.66	61.4	Ari
7 Feb 2020	03h02m01.90s	+12 37' 52.0"	2.5699	2.3851	8.0	89.3	22.6	1.18	289.30	35.28	61.8	Ari
8 Feb 2020	03h02m53.03s	+12 44' 35.8"	2.5700	2.3986	8.0	88.5	22.6	0.83	289.97	35.89	62.2	Ari
9 Feb 2020	03h03m45.23s	+12 51' 21.2"	2.5701	2.4122	8.0	87.8	22.6	0.47	290.64	36.48	62.6	Ari
10 Feb 2020	03h04m38.49s	+12 58' 08.0"	2.5702	2.4257	8.0	87.0	22.5	0.12	291.31	37.07	62.9	Ari
11 Feb 2020	03h05m32.80s	+13 04' 56.2"	2.5703	2.4392	8.1	86.2	22.5	-0.22	291.97	37.65	63.3	Ari
12 Feb 2020	03h06m28.13s	+13 11' 45.7"	2.5704	2.4527	8.1	85.5	22.5	-0.56	292.63	38.22	63.6	Ari
13 Feb 2020	03h07m24.47s	+13 18' 36.2"	2.5704	2.4662	8.1	84.7	22.5	-0.89	293.29	38.78	64.0	Ari
14 Feb 2020	03h08m21.82s	+13 25' 27.8"	2.5705	2.4797	8.1	83.9	22.5	-1.22	293.95	39.33	64.3	Ari
15 Feb 2020	03h09m20.16s	+13 32' 20.4"	2.5706	2.4932	8.1	83.2	22.4	-1.55	294.60	39.88	64.6	Ari
16 Feb 2020	03h10m19.48s	+13 39' 13.8"	2.5706	2.5066	8.1	82.5	22.4	-1.86	295.26	40.41	64.9	Ari
17 Feb 2020	03h11m19.76s	+13 46' 08.0"	2.5707	2.5200	8.1	81.7	22.4	-2.18	295.91	40.94	65.2	Ari
18 Feb 2020	03h12m20.99s	+13 53' 02.8"	2.5707	2.5334	8.1	81.0	22.3	-2.49	296.56	41.46	65.5	Ari
19 Feb 2020	03h13m23.17s	+13 59' 58.2"	2.5708	2.5467	8.1	80.2	22.3	-2.79	297.20	41.98	65.8	Ari
20 Feb 2020	03h14m26.27s	+14 06' 54.0"	2.5708	2.5600	8.1	79.5	22.2	-3.09	297.85	42.48	66.1	Ari
21 Feb 2020	03h15m30.31s	+14 13' 50.4"	2.5709	2.5733	8.2	78.8	22.2	-3.39	298.49	42.98	66.4	Ari
22 Feb 2020	03h16m35.24s	+14 20' 46.9"	2.5709	2.5865	8.2	78.1	22.1	-3.68	299.13	43.47	66.6	Ari
23 Feb 2020	03h17m41.06s	+14 27' 43.5"	2.5709	2.5998	8.2	77.3	22.1	-3.96	299.77	43.95	66.9	Ari
24 Feb 2020	03h18m47.76s	+14 34' 40.3"	2.5710	2.6129	8.2	76.6	22.0	-4.24	300.40	44.42	67.1	Ari
25 Feb 2020	03h19m55.33s	+14 41' 37.0"	2.5710	2.6260	8.2	75.9	21.9	-4.52	301.04	44.88	67.4	Ari
26 Feb 2020	03h21m03.74s	+14 48' 33.6"	2.5710	2.6391	8.2	75.2	21.9	-4.79	301.67	45.33	67.6	Ari
27 Feb 2020	03h22m13.00s	+14 55' 30.0"	2.5711	2.6522	8.2	74.5	21.8	-5.06	302.30	45.77	67.9	Ari
28 Feb 2020	03h23m23.08s	+15 02' 26.0"	2.5711	2.6651	8.2	73.8	21.7	-5.32	302.93	46.21	68.1	Ari
29 Feb 2020	03h24m33.97s	+15 09' 21.6"	2.5711	2.6781	8.2	73.1	21.6	-5.58	303.56	46.63	68.4	Tau
1 Mar 2020	03h25m45.66s	+15 16' 16.7"	2.5711	2.6910	8.2	72.4	21.6	-5.84	304.18	47.05	68.6	Tau
2 Mar 2020	03h26m58.14s	+15 23' 11.2"	2.5711	2.7038	8.2	71.7	21.5	-6.09	304.81	47.46	68.8	Tau
3 Mar 2020	03h28m11.40s	+15 30' 04.9"	2.5711	2.7165	8.3	71.0	21.4	-6.33	305.43	47.86	69.0	Tau
4 Mar 2020	03h29m25.42s	+15 36' 57.9"	2.5711	2.7293	8.3	70.3	21.3	-6.57	306.05	48.25	69.3	Tau
5 Mar 2020	03h30m40.18s	+15 43' 49.9"	2.5711	2.7419	8.3	69.7	21.2	-6.81	306.67	48.64	69.5	Tau
6 Mar 2020	03h31m55.69s	+15 50' 41.0"	2.5711	2.7545	8.3	69.0	21.1	-7.04	307.29	49.01	69.7	Tau
7 Mar 2020	03h33m11.92s	+15 57' 30.9"	2.5710	2.7670	8.3	68.3	21.0	-7.27	307.90	49.38	69.9	Tau
8 Mar 2020	03h34m28.86s	+16 04' 19.7"	2.5710	2.7795	8.3	67.6	20.9	-7.50	308.51	49.74	70.1	Tau
9 Mar 2020	03h35m46.51s	+16 11' 07.3"	2.5710	2.7919	8.3	67.0	20.8	-7.72	309.13	50.10	70.3	Tau

Ephemeride des Kleinplaneten (4) Vesta

<u>Datum</u>	<u>RA</u>	<u>Deklination</u>	<u>r</u>	<u>delta</u>	<u>mag</u>	<u>Elong</u>	<u>Phase</u>	<u>Höhe</u>	<u>Az.</u>	<u>Gesch.</u>	<u>PA</u>	<u>Stb</u>
10 Mar 2020	03h37m04.85s	+16 17' 53.5"	2.5710	2.8042	8.3	66.3	20.7	-7.93	309.74	50.45	70.6	Tau
11 Mar 2020	03h38m23.88s	+16 24' 38.2"	2.5709	2.8165	8.3	65.6	20.6	-8.14	310.35	50.79	70.8	Tau
12 Mar 2020	03h39m43.58s	+16 31' 21.5"	2.5709	2.8287	8.3	65.0	20.5	-8.35	310.95	51.12	71.0	Tau
13 Mar 2020	03h41m03.95s	+16 38' 03.3"	2.5709	2.8408	8.3	64.3	20.4	-8.56	311.56	51.46	71.2	Tau
14 Mar 2020	03h42m24.99s	+16 44' 43.4"	2.5708	2.8529	8.3	63.6	20.3	-8.76	312.16	51.78	71.4	Tau
15 Mar 2020	03h43m46.67s	+16 51' 21.8"	2.5708	2.8649	8.3	63.0	20.2	-8.95	312.77	52.10	71.6	Tau
16 Mar 2020	03h45m09.01s	+16 57' 58.5"	2.5707	2.8768	8.3	62.3	20.0	-9.15	313.37	52.42	71.8	Tau
17 Mar 2020	03h46m31.98s	+17 04' 33.3"	2.5707	2.8887	8.4	61.7	19.9	-9.33	313.97	52.73	72.0	Tau
18 Mar 2020	03h47m55.59s	+17 11' 06.2"	2.5706	2.9004	8.4	61.0	19.8	-9.52	314.56	53.04	72.2	Tau
19 Mar 2020	03h49m19.82s	+17 17' 37.2"	2.5705	2.9121	8.4	60.4	19.7	-9.70	315.16	53.34	72.4	Tau
20 Mar 2020	03h50m44.67s	+17 24' 06.1"	2.5705	2.9238	8.4	59.8	19.6	-9.88	315.75	53.64	72.6	Tau
21 Mar 2020	03h52m10.13s	+17 30' 33.0"	2.5704	2.9353	8.4	59.1	19.4	-10.05	316.35	53.93	72.8	Tau
22 Mar 2020	03h53m36.19s	+17 36' 57.6"	2.5703	2.9468	8.4	58.5	19.3	-10.22	316.94	54.21	73.0	Tau
23 Mar 2020	03h55m02.84s	+17 43' 20.0"	2.5703	2.9581	8.4	57.9	19.2	-10.39	317.53	54.49	73.1	Tau
24 Mar 2020	03h56m30.07s	+17 49' 40.0"	2.5702	2.9694	8.4	57.2	19.0	-10.55	318.12	54.77	73.3	Tau
25 Mar 2020	03h57m57.88s	+17 55' 57.7"	2.5701	2.9806	8.4	56.6	18.9	-10.71	318.71	55.03	73.5	Tau
26 Mar 2020	03h59m26.25s	+18 02' 12.9"	2.5700	2.9917	8.4	56.0	18.8	-10.87	319.29	55.30	73.7	Tau
27 Mar 2020	04h00m55.18s	+18 08' 25.6"	2.5699	3.0028	8.4	55.3	18.6	-11.02	319.87	55.55	73.9	Tau
28 Mar 2020	04h02m24.66s	+18 14' 35.7"	2.5698	3.0137	8.4	54.7	18.5	-11.17	320.46	55.81	74.1	Tau
29 Mar 2020	04h03m54.68s	+18 20' 43.1"	2.5697	3.0246	8.4	54.1	18.3	-11.31	321.04	56.05	74.3	Tau
30 Mar 2020	04h05m25.23s	+18 26' 47.7"	2.5696	3.0353	8.4	53.5	18.2	-11.46	321.62	56.29	74.5	Tau
31 Mar 2020	04h06m56.30s	+18 32' 49.5"	2.5695	3.0460	8.4	52.9	18.1	-11.59	322.19	56.53	74.7	Tau
1 Apr 2020	04h08m27.89s	+18 38' 48.5"	2.5694	3.0566	8.4	52.3	17.9	-11.73	322.77	56.76	74.9	Tau