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OBSERVATIONS OF ENCKE'S COMET, OF FLORA, AND OF EGERIA, MADE AT THE OBSERVATORY OF HAMBURG.

By PROFESSOR C. RÜMKER.

ENCKE'S COMET.

1852.	M. T. Hamburg.	α	Parall.	δ	Parall.	No. of Comp.
	h. m. s.	° ′ ″	″	° ′ ″	″	
Jan. 20	6 43 6.0	348 47 4.0	+2.7	+4 50 2.0	+4.5	14
22	6 43 53.2	349 28 17.6	2.8	5 3 20.0	4.5	8
26	6 41 32.3	350 54 9.6	3.2	5 32 20.6	5.0	20
27	6 37 1.8	351 16 41.1	3.2	5 39 23.5	5.0	2
Feb. 18	7 43 55.5	0 54 8.7	4.3	8 39 58.8	5.8	10
19	7 20 41.6	1 22 39.6	4.3	8 47 20.3	5.6	7
20	7 11 11.7	1 51 11.4	4.3	8 53 48.7	5.8	17
23	7 17 17.4	3 17 49.8	4.6	9 10 47.7	6.0	20
24	7 17 23.8	3 45 55.6	4.6	9 15 19.6	6.1	9
25	7 49 44.2	4 14 11.1	4.8	9 18 23.0	6.3	4
27	7 5 23.8	5 23 49.6	4.9	9 32 40.1	6.4	5
March 1	7 24 15.5	6 15 55.4	5.3	9 13 43.1	7.0	13
2	7 5 16.4	6 34 46.1	5.5	9 6 58.3	7.1	3
4	7 18 27.6	7 4 31.9	5.7	8 43 25.5	7.4	7
5	7 6 5.2	7 13 50.0	5.9	8 26 31.9	7.7	7
8	7 6 56.5	7 9 52.6	6.3	7 5 56.0	8.2	2
9	7 2 14.6	7 1 36.7	+6.6	+6 45 54.8	+8.7	1

The annexed parallax is not yet applied to the observations. The apparent places of the comparison-stars are mostly derived from my observations with the Meridian-Circle.

Apparent Places of Comparison-Stars.

1852.	$* \alpha$	$* \delta$	1852.	$* \alpha$	$* \delta$
	h. m. s.	° ′ ″		h. m. s.	° ′ ″
Jan. 20	23 12 46.557	+4 34 20.8	Feb. 25	0 19 14.059	+9 19 37.9
	23 14 29.576	4 31 31.7		0 20 39.458	9 22 37.8
22	23 20 42.470	5 15 32.2	27	0 21 51.235	9 33 54.5
	23 20 55.017	4 59 30.7	March 1	0 26 29.272	9 29 11.4
26	23 22 48.812	5 36 31.1	2	0 26 29.270	9 29 11.4
27	23 22 48.806	5 36 31.0	4	0 29 56.223	8 49 24.5
Feb. 18	0 4 10.520	8 18 51.9		0 33 32.098	8 32 39.9
19, 20	0 7 46.090	8 55 35.0	5	0 33 32.095	8 32 39.9
23	0 12 50.260	9 6 45.0	8	0 36 38.812	6 57 31.5
24	0 12 50.250	9 6 44.9	9	0 40 59.074	+6 46 33.2
	0 19 14.060	9 19 37.9			
	0 20 39.458	+9 22 37.8			

FLORA.

1852.	M. T. Hamburg.	⑧ α	Parall.	⑧ δ	Parall.	No. of Comp.	Compared Stars.
	h. m. s.	° ′ ″	″	° ′ ″	″		
March 12	10 8 6.3	190 32 45.2	—2.5	+5 24 47.2	+4.3	4	18, 20, Weisse Hor. 12, No. 838.
13	10 28 9.0	190 19 18.6	2.3	5 33 1.9	4.3	4	15.
14	11 7 44.9	190 5 29.6	1.7	5 40 42.9	4.3	7	15, 16.
15	11 6 1.8	189 51 55.1	1.6	5 48 44.5	4.3	4	15, 16.
16	8 56 21.3	189 39 17.3	3.0	5 55 19.8	4.4	1	15, 16.
17	9 16 9.5	189 25 6.5	2.8	6 3 14.2	4.4	5	15, 16, Weisse 593; Lal. 23714.
19	8 56 52.6	188 56 46.2	2.9	6 18 12.7	4.4	6	11, Weisse 572, 576, 593; Lal. 23713.
19	12 44 54.8	188 54 24.9	0.0	6 19 23.8	4.2		Meridian-Circle.
20	9 36 59.9	188 41 51.8	2.5	6 26 2.5	4.3	4	13, Weisse 572; Lal. 23692.
20	12 40 1.6	188 40 2.6	0.0	6 26 52.0	4.2		Meridian-Circle.
21	9 14 57.5	188 27 34.0	2.6	6 33 34.5	4.3	4	Weisse 572; Lal. 23692.
21	12 35 7.8	188 25 30.3	0.0	6 34 13.7	4.2		Meridian-Circle.
24	12 20 24.2	187 41 27.5	0.0	6 55 52.5	4.2		Meridian-Circle.
25	9 15 32.7	187 28 39.0	2.7	7 2 9.7	4.3	4	12, Weisse 536, 543.
25	12 15 29.6	187 26 39.0	0.0	7 2 53.1	4.1		Meridian-Circle.
28	9 25 6.1	186 43 58.1	2.7	7 22 44.1	4.3	6	Weisse 364, 367.
28	12 0 44.8	186 42 19.9	0.0	7 23 8.2	4.1		Meridian-Circle.
April 2	11 36 14.6	185 29 28.9	0.0	7 53 58.1	4.0		"
5	11 22 21.9	184 58 8.2	0.0	8 11 51.3	4.0		"
7	11 11 57.4	184 19 50.5	—0.0	+8 20 31.3	+4.0		"

Mean Places of Stars in the Geocentric Orbit of Flora, from Observations with the Meridian-Circle.

Number.	✻ α Jan. 0, 1852.	No. of Obs.	✻ δ Jan. 0, 1852.	No. of Obs.	Number.	✻ α Jan. 0, 1852.	No. of Obs.	✻ δ Jan. 0, 1852.	No. of Obs.
	h. m. s.		° ′ ″			h. m. s.		° ′ ″	
1	12 6 56.936	1	+5 8 12.4	1	11	12 32 22.077	1	+6 15 34.0	1
2	12 6 57.147	1	4 28 46.7	1	12	12 33 48.782	1	7 2 3.9	1
3	12 11 49.098	1	7 49 41.5	1	13	12 35 15.430	1	6 27 27.8	1
4	12 17 52 749	1	8 5 43.9	1	14	12 38 46.938	3	6 20 34.5	2
5	12 20 37.329	1	7 54		15	12 40 39.596	2	5 56 43.9	2
6	12 22 39.069	2	6 41 43.7	2	16	12 41 54.869	2	5 58 57.9	2
7	12 23 11.296	1	6 20 4.5	1	17	12 44 25.780	1	5 36 28.9	1
8	12 25 58.860	1	7 2		18	12 46 8.816	1	5 2 39.2	1
9	12 29 18.472	1	8 44 52.5	1	19	12 46 13.080	1	5 32 53.8	1
10	12 30 35.620	1	+6 26 58.2	1	20	12 47 51.056	2	+5 23 5.7	2

EGERIA.

1852.	M. T. Hamburg.	⑬ α	Parall.	⑬ δ	Parall.	No. of Comp.	Compared Stars.
	h. m. s.	° ′ ″	″	° ′ ″	″		
Feb. 19	9 52 57.6	184 34 26.7	—3.3	+23 14 37.7	+3.6	4	40.
20	9 19 39.3	184 24 4.7	3.3	23 19 16.2	3.9	15	40.
22	10 24 51.6	184 0 57.4	3.0	23 30 1.8	3.4	17	40.
23	8 58 5.2	183 49 46.4	3.5	23 34 46.4	3.8	24	40, 41.
24	9 2 38.5	183 37 24.7	3.5	23 39 50.0	3.8	12	39, 41.
25	8 49 42.3	183 24 50.5	3.6	23 44 33.6	3.8	12	39.
27	8 36 40.2	182 58 35.5	3.6	23 53 50.3	3.9	23	38.
29	9 30 25.8	182 30 14.4	3.3	24 2 39.4	3.5	10	35, 37, 38, 39.
March 1	8 54 18.2	182 16 14.6	3.5	24 6 35.0	3.7	11	37, 38.
4	9 14 42.3	181 31 15.3	3.3	24 17 42.3	3.6	16	33.
8	8 30 56.7	180 28 57.6	3.4	24 29 20.8	3.6	16	32.
12	8 23 19.1	179 23 50.3	3.4	24 37 12.9	3.6	13	30, 31, 32.
13	9 35 19.5	179 6 23.9	2.6	24 38 36.5	3.2	14	30, 31, 32.
14	12 24 15.0	178 47 54.5	0.0	24 39 44.0	2.8	*c*	Meridian-Circle.
15	10 28 9.6	178 32 40.4	1.8	24 40 21.3	3.0	6	27, 28, 30, Bessel's Zone 503, No. 26.
15	12 19 13.0	178 31 15.4	0.0	24 40 31.0	2.8		Meridian-Circle.
16	8 31 41.2	178 17 28.4	3.1	24 40 47.6	3.4	5	28, 30, Bessel's Zone 503, No. 26.
17	12 9 9.0	177 58 12.2	0.0	24 41 4.3	2.8		Meridian-Circle.
19	7 55 18.2	177 28 14.4	—3.3	+24 40 32.4	+3.5	5	24, 25, 27.

1852.	M. T. Hamburg.	⑬ α	Parall.	⑬ δ	Parall.	No. of Comp.	Compared Stars.
	h. m. s.	° ′ ″	″	° ′ ″	″		
March 19	11 59 6.0	177 25 19.1	—0.0	+24 40 27.1	+2.8		Meridian-Circle.
20	8 30 36.3	177 11 24.4	2.9	24 39 57.2	3.3	5	25, 27.
20	11 54 5.2	177 9 3.4	0.0	24 39 42.4	2.8		Meridian-Circle.
21	8 23 58.6	176 55 7.8	2.9	24 38 54.2	3.3	9	25.
21	11 49 4.4	176 52 45.3	0.0	24 38 45.4	2.8		Meridian-Circle.
22	8 27 54.2	176 38 57.2	2.9	24 37 36.7	3.2	17	25.
24	8 19 14.5	176 7 6.2	3.0	24 34 12.6	3.3	13	24.
24	11 34 6.6	176 5 7.9	0.0	24 34 6.1	2.8		Meridian-Circle.
25	8 7 2.1	175 51 33.9	2.9	24 32 2.2	3.3	6	24.
25	11 29 7.6	175 49 18.7	0.0	24 31 46.2	2.8		Meridian-Circle.
28	8 14 43.0	175 5 50.6	2.6	24 23 40.3	3.2	12	23, Bessel's Zone 353, No. 64.
28	11 14 18.5	175 3 49.7	0.0	24 23 28.5	2.7		Meridian-Circle.
30	8 24 6.0	174 36 41.4	2.4	24 16 46.0	3.1	4	23, Bessel's Zone 353, No. 64.
April 2	9 33 20.9	173 54 36.8	1.2	24 4 10.2	2.8	13	Bessel's Zone 353, No. 61.
2	10 49 57.7	173 53 19.9	0.0	23 3 54.9	2.7		Meridian-Circle.
5	10 35 36.6	173 14 52.4	—0.0	+23 48 50.8	+2.7		Meridian-Circle.

Mean Places of Stars in the Geocentric Orbit of Egeria.

Number.	✻ α Jan. 0, 1852.	No. of Obs.	✻ δ Jan. 0, 1852.	No. of Obs.	Number.	✻ α Jan. 0, 1852.	No. of Obs.	✻ δ Jan. 0, 1852.	No. of Obs.
	h. m. s.		° ′ ″			h. m. s		° ′ ″	
1	11 12 2.223	1	+19 53 28.39	1	23	11 39 20.295	2	+24 32 29.68	2
2	11 12 25.892	2	21 21 39.80	2	24	11 45 13.767	3	24 36 14.26	3
3	11 14 7.585	1	20 16 58.98	1	25	11 46 54.613	1	24 38 8.85	1
4	11 17 19.515	1	23 27 42.79	1	26	11 48 50.220	1	24 17 50.36	1
5	11 18 26.685	1	20 17 47.88	1	27	11 51 29.419	3	24 43 48.55	3
6	11 18 26.991	1	21 12 46.02	1	28	11 52 20.984	3	24 46 1.83	2
7	11 18 41.155	1	21 20 0.74	1	29	11 55 18.900	1	25 0 4.22	1
8	11 19 20.292	1	20 30 25.91	1	30	11 56 37.549	3	24 56 35.79	3
9	11 22 21.615	1	23 25 31.90	1	31	12 0 29.486	8	24 31 32.08	8
10	11 24 14.962	1	22 40 35.91	1	32	12 0 34.963	1	24 42 50.15	1
11	11 25 5.956	1	22 48 16.83	1	33	12 6 56.935	7	24 29 23.82	7
12	11 25 35.914	1	22 23 41.77	1	34	12 8 50.963	1	24 46 5.60	1
13	11 26 53.333	1	24 9 58.72	1	35	12 10 24.268	1	23 40 35.11	1
14	11 28 55.164	1	21 12 22.41	1	36	12 11 8.761	1	24 8 20.03	1
15	11 30 56.262	1	23 11 54.58	1	37	12 11 7.052	3	23 56 33.18	3
16	11 30 59.813	2	24 8 53.20	2	38	12 11 50.218	2	23 51 25.52	2
17	11 31 8.282	1	23 36 41.71	1	39	12 13 14.245	1	23 44 13.72	1
18	11 32 31.576	1	22 12 24.12	1	40	12 14 56.727	1	23 17 9.55	1
19	11 33 4.945	1	22 10 26.33	1	41	12 15 19.272	3	23 41 43.69	2
20	11 34 46.618	1	24 43 20.68	1	42	12 17 37.205	2	23 45 6.47	2
21	11 36 4.491	1	24 49 52.87	1	43	12 22 55.084	2	+23 14 41.86	2
22	11 36 53.132	1	+23 11 55.42	1					

ELEMENTS OF THETIS.

By Mr. J. D. RUNKLE.

Orbit of *Thetis*, computed from observations made at Bilk, April 17, Vienna, April 28, and Washington, May 19.

Epoch, 1852, Jan. 0, Mean Time Washington.

M	275° 35′ 40.″84	
π	259 42 13.73	Mean equinox of epoch.
Ω	125 28 29.19	
ϕ	6 56 48.87	
i	5 35 45.61	
Log. a	0.3911498	
Log. μ	2.9632819	

The orbit gives for the middle place: $\delta\lambda = +0''.71$; $\delta\beta = -0''.02$. (Calc. − Obs.)