ELEMENTS OF (645) [1907 AG].

By MATT FREDERICKSON.

This asteroid was discovered by METCALF at Taunton, Mass., on September 13, 1907. From three observations made at Washington the following elements were computed by the method given in WATSON'S Theoretical Astronomy:

The observations are as follows:

Date.	Washington Mean Time.	Apparent α .	Apparent δ .	Log $p\Delta$.		Red. to 1907.0	
				α	δ	α	δ
1907	h m s	h m s	° ' "			s	"
Sept. 29	9 28 16	23 34 24.96	-3 32 35.5	9.268 _n	0.769	-1.25	-8.5
Oct. 14	11 7 54	23 24 16.47	-4 6 2.9	9.162	0.774	-1.34	-9.1
30	9 50 50	23 17 38.25	-4 17 6.4	9.116	0.776	-1.45	-9.9

Elements.

Epoch: 1907, September 29.5, Berlin Mean Time.

$$\begin{aligned}
 M &= 284 \ 39 \ 33.0 \\
 \omega &= 89 \ 8 \ 41.6 \\
 \Omega &= 0 \ 47 \ 29.7 \\
 i &= 7 \ 4 \ 16.1 \\
 \varphi &= 8 \ 56 \ 0.6
 \end{aligned}
 \left. \vphantom{\begin{aligned} M \\ \omega \\ \Omega \\ i \\ \varphi \end{aligned}} \right\} 1907.0$$

$$\mu = 620''.253$$

$$\log a = 0.504958$$

$$m_0 = 11.5 \quad g = 9.8$$

Residuals.	Sept. 29.	Oct. 14.	Oct. 30.
	"	"	"
O-C { α	+0.1	0.0	0.0
δ	+0.2	-0.1	0.0

Heliocentric Coordinates 1907.0

$$\begin{aligned}
 x &= r [0.000000] \sin (179 \ 55 \ 49.6 + v) \\
 y &= r [9.935224] \sin (\ 89 \ 59 \ 16.4 + v) \\
 z &= r [9.705750] \sin (\ 89 \ 45 \ 54.6 + v)
 \end{aligned}$$

ORBITS OF ASTEROIDS.

B 125

Ephemeris for 1907.

Berlin Mean Midnight.	Apparent α .	Apparent δ .	Log Δ .	Aberr. Time.
1907	h m s	° ' "		m s
Sept. 29	23 34 30.94	-3 32 10.8	0.335317	17 57
Oct. 3	23 31 33.48	-3 42 45.6	0.337299	18 3
7	23 28 45.76	-3 52 16.1	0.340153	18 10
11	23 26 10.39	-4 0 29.5	0.343818	18 20
15	23 23 49.81	-4 7 13.2	0.348241	18 31

Observations made at Washington give the following corrections to this ephemeris:

Corrections to the Ephemeris.

Date.	O-C		Date.	O-C		Date.	O-C	
	α	δ		α	δ		α	δ
1907	s	"	1907	s	"	1907	s	"
Sept. 29	-0.03	-0.2	Oct. 2	+0.01	-0.3	Oct. 9	-0.25	+1.3
29	-0.01	+0.3	5	+0.07	-0.6	12	+0.03	+0.5
30	-0.25	+0.8	8	-0.21	-0.1	14	-0.02	+0.2

Observations made at Washington January 21 and 22, 1909, give corrections of $+1^m50^s$ in right ascension and $-0'.2$ in declination to positions computed from these elements.

28167°—VOL 6—11—33