LICK OBSERVATORY BULLETIN

NUMBER 138

ELEMENTS AND EPHEMERIS OF COMET *c* 1908 (MOREHOUSE).

From the observations

1908 Gr. M.T.	Comet's Apparent δ			Observer
	α			
Sept. 2.7396	3 ^h 21 ^m 55 ^s	+66° 52'	24"	Fox
3.8421	18 13.9	67 29	35	Aitken
4.8470	3 14 32.3	+68 03	59	Aitken

of which the first was made at the Yerkes Observatory, the following elements and ephemeris have been derived:

ELEMENTS.

$$\begin{aligned}
 T &= 1909 \text{ January } 5.702 \text{ Gr. M.T.} \\
 \omega &= 152^\circ 04'.0 \\
 \Omega &= 90 \quad 20.5 \\
 i &= 135 \quad 56.2 \\
 q &= 1.1680
 \end{aligned}
 \left. \vphantom{\begin{aligned} \omega \\ \Omega \\ i \end{aligned}} \right\} 1908.0$$

O—C	I	III
$\cos \delta \Delta \alpha$	+1"	+4"
$\Delta \delta$	+1	+2

CONSTANTS FOR THE EQUATOR 1908.0.

$$\begin{aligned}
 x &= r [9.85648] \sin (151^\circ 35'.5 + v) \\
 y &= r [9.98098] \sin (258 \quad 37.9 + v) \\
 z &= r [9.87703] \sin (183 \quad 57.2 + v)
 \end{aligned}$$

EPHEMERIS FOR GREENWICH MEAN MIDNIGHT.

1908	True α	True δ	Log Δ	Br.
Sept. 11.5	2 ^h 38 ^m 02 ^s	+71° 57'	0.2320	1.30
12.5	30 12	72 31.4		
13.5	21 31	73 05.1	0.2202	1.44
14.5	11 54	73 37.8		
15.5	2 01 18	74 09.2	0.2085	1.56
16.5	1 49 37	74 38.9		
17.5	36 48	75 06.4	0.1968	1.67
18.5	22 46	31.1		
19.5	1 07 31	75 52.5	0.1854	1.80
20.5	0 51 06	76 10.0		

1908	True α	True δ	Log Δ	Br.
Sept. 21.5	0 ^h 33 ^m 36 ^s	+76° 23'	0.1742	1.94
22.5	0 15 10	30.7		
23.5	23 56 02	32.7	0.1633	2.08
24.5	36 28	28.6		
25.5	23 16 48	18.0	0.1528	2.21
26.5	22 57 21	76 00.8		
27.5	38 27	75 36.9	0.1429	2.36
28.5	20 21	75 06.3		
29.5	22 03 14	74 29.4	0.1335	2.57
30.5	21 47 14	73 46.6		
Oct. 1.5	32 25	72 58.4	0.1249	2.73
2.5	18 48	72 05.0		
3.5	21 06 23	+71 06.9	0.1170	2.90

Brightness September 3 = 1.00.

The observation by Fox gives an approximate position, evidently only to the nearest tenth of a minute of arc. For this reason the orbit was not sent out until it could be tested on a later accurate position. Such a position was kindly sent from the Lick Observatory by telephone immediately after it was reduced. This position, by Aitken, is

1908 Gr. M.T.	Comet's apparent δ
Sept. 5.8705	3 ^h 10 ^m 21 ^s .22 +68° 39' 30".5

Comparison with the elements derived gives

$$(O-C) \cos \delta \Delta \alpha + 3''; \Delta \delta + 11''$$

This is considered satisfactory for a preliminary orbit so that no attempt was made to remove these residuals.

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BERKELEY ASTRONOMICAL DEPARTMENT,
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