LICK OBSERVATORY BULLETIN

NUMBER 140

EPHEMERIS FOR THE EIGHTH SATELLITE OF JUPITER.

Based upon the elements given in Bulletin No. 137, osculating for 1908 March 8.8233 Gr. M. T., the special perturbations due to the action of the sun were carried forward by Encke's method. As the positions approached perijove the variations in the perturbations became so large that it was found necessary to pass to a new set of osculating elements. These are:

ELEMENTS.

Epoch and Osculation, 1908 Aug. 4.0 Gr. M.T.

$$\left. \begin{aligned} M_0 &= 348^\circ 165 \\ \omega &= 57.834 \\ \Omega &= 237.537 \\ i &= 145.261 \\ \phi &= 24.936 \\ \mu &= 0^\circ 42' 29.51 \\ \log a &= 9.23380 \\ P &= 2.2948 \text{ (yrs.)} \end{aligned} \right\} \text{Equator 1908.0}$$

CONSTANTS FOR THE EQUATOR 1908.0.

$$\begin{aligned} x &= r [9.94292] \sin (275^\circ 580 + v) \\ y &= r [9.97868] \sin (355.433 + v) \\ z &= r [9.75575] \sin (57.834 + v) \end{aligned}$$

Using the elements osculating for Aug. 4.0 and the perturbations computed from them by Encke's method the following ephemeris has been derived.

EPHEMERIS FOR GREENWICH MEAN NOON.

1908 Gr. M.T.	VIII—Jupiter		Log Δ
	$\Delta\alpha$	$\Delta\delta$	
Oct. 19.0	—2 ^m 06 ^s .45	+26' 06".9	0.7836
23.0	25.75	33.5	0.7799
27.0	2 44.79	26 56.0	0.7760
Oct. 31.0	—3 03.48	+27 14.1	0.7718

1908 Gr. M.T.	VIII—Jupiter		Log Δ
	$\Delta\alpha$	$\Delta\delta$	
Nov. 4.0	—3 ^m 21 ^s .93	+27' 27".6	0.7675
8.0	40.04	36.7	0.7630
12.0	3 57.81	41.1	0.7582
16.0	4 15.26	40.9	0.7533
20.0	32.37	36.4	0.7483
24.0	4 49.13	26.8	0.7431
Nov. 28.0	5 05.59	27 12.8	0.7377
Dec. 2.0	—5 21.71	+26 53.8	0.7323

$\Delta\alpha$ and $\Delta\delta$ are the differences between the mean coördinates of the two bodies referred to the beginning of the year.

The following table gives the perturbations in the jovicentric rectangular equatorial coördinates. They are expressed in units of the seventh decimal place:

PERTURBATIONS.

1908 Gr. M. T.	in x	in y	in z
Oct. 15.0	— 5223	+ 5738	+1123
23.0	7014	7102	1679
Oct. 31.0	9091	8679	2389
Nov. 8.0	11421	10487	3250
16.0	13960	12533	4259
Nov. 24.0	16659	14812	5396
Dec. 2.0	—19472	+17303	+6624

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October 22, 1908.