From these there resulted the equations,

$$\begin{aligned}
6{\cdot}100x + {\cdot}904y - {\cdot}122z - {\cdot}357u + {\cdot}385v - {\cdot}710 &= 0\\
2{\cdot}841y - {\cdot}118z + {\cdot}126u - {\cdot}175v + 2{\cdot}165 &= 0\\
2{\cdot}183z - {\cdot}042u + {\cdot}107v - 6{\cdot}769 &= 0\\
3{\cdot}230u - 3{\cdot}220v - 1{\cdot}876 &= 0\\
3{\cdot}220v + 1{\cdot}546 &= 0
\end{aligned}$$

which gave the following small corrections to the preliminary values,

$$\begin{aligned}
\delta\gamma &= +\ 0{\cdot}25 \text{ km.}\\
\delta K &= -\ 0{\cdot}57 \text{ km.}\\
\delta e &= +\ 0{\cdot}026\\
\delta\omega &= +\ 6^\circ{\cdot}11\\
\delta T &= +\ 0{\cdot}036 \text{ day}
\end{aligned}$$

The value of Σpvv for the normal places was reduced from 39·7 to 16·0 and satisfactory agreement was obtained between equation and ephemeris residuals. The probable error of a plate obtained from the last two columns of the table of measures is ±6·9 km. per second. The curve shown represents the final elements and the observations as grouped.

FINAL ELEMENTS

$$\begin{aligned}
P &= 2{\cdot}25960 \text{ days}\\
e &= {\cdot}076\\
\omega &= 126^\circ{\cdot}11\\
\gamma &= +\ 7{\cdot}37 \text{ km.}\\
K &= 104{\cdot}43 \text{ km.}\\
T &= \text{J. D. } 2{,}419{,}031{\cdot}632\\
a \sin i &= 3{,}235{,}400 \text{ km.}\\
\frac{m_1{}^3 \sin^3 i}{(m+m_1)^2} &= 0{\cdot}26\odot
\end{aligned}$$

Dominion Observatory
Ottawa
July, 1918.