The Lehmann-Filhés formula was used and making the transformations,

$$\begin{aligned} x &= \delta\gamma \\ y &= \delta K \\ z &= K.\delta e \\ u &= K.\delta\omega \\ v &= \frac{K}{(1-e^2)^{\frac{3}{2}}}\cdot\mu\cdot\delta T \end{aligned}$$

the observation equations were:—

—	x	y	z	u	v	
1	1·000	+ ·137	− ·867	−1·101	+1·219	+ 9·0 = 0
2	1·000	− ·504	− ·836	− ·882	+ ·784	−19·5 = 0
3	1·000	− ·778	− ·001	− ·529	+ ·371	+16·4 = 0
4	1·000	− ·872	+ ·626	− ·204	+ ·080	−12·6 = 0
5	1·000	− ·553	+ ·584	+ ·634	− ·520	+14·0 = 0
6	1·000	− ·268	− ·031	+ ·817	− ·676	+ 0·5 = 0
7	1·000	+ ·214	− ·835	+ ·893	− ·821	− 0·6 = 0
8	1·000	+ ·549	− ·993	+ ·802	− ·832	+ 4·1 = 0
9	1·000	+1·060	+ ·116	+ ·247	− ·408	+ 3·2 = 0
10	1·000	+ ·908	+ ·807	− ·723	+ ·834	− 6·2 = 0

From these observation equations were derived the normal equations:

$$\begin{aligned} 9\cdot500x - \cdot088y + \cdot652z + \cdot633u - \cdot702v + 2\cdot970 &= 0 \\ 4\cdot925y - \cdot245z + \cdot122u - \cdot026v - 1\cdot383 &= 0 \\ 3\cdot657z - \cdot898u + \cdot931v - 1\cdot360 &= 0 \\ 4\cdot165u - 3\cdot946v + 22\cdot165 &= 0 \\ 3\cdot868v - 20\cdot494 &= 0 \end{aligned}$$

The correeted elements, with their probable errors, are then the following:—

$$\begin{aligned} P &= 4\cdot3934 \text{ days} \\ e &= \cdot156 \pm \cdot017 \\ \omega &= 37°\cdot64 \pm 4°\cdot95 \\ K &= 218\cdot44 \text{ km.} \pm 3\cdot14 \text{ km.} \\ \gamma &= -12\cdot12 \text{ km.} \pm 2\cdot28 \text{ km.} \\ T &= \text{J. D. } 2{,}417{,}240\cdot248 \pm \cdot061 \\ a \sin i &= 13{,}035{,}000 \text{ km.} \\ \frac{m_1{}^3 \sin^3 i}{(m+m_1)^2} &= 4\cdot58\ \odot \end{aligned}$$

The curve shown represents the final elements with the observations as grouped.

Dominion Observatory
Ottawa
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