

Normal equations resulting from these observation equations were as follows:—

$$\begin{array}{rcl} 23x - 1.713y - 0.414z + 0.037u - 9.650 & = & 0 \\ 11.711y + 0.421z - 0.970u + 9.050 & = & 0 \\ 11.700z - 0.900u + 0.545 & = & 0 \\ 11.327u - 14.621 & = & 0 \end{array}$$

Solving these gave,

$$\begin{array}{l} x = + .37 \\ y = - .62 \\ z = + .085 \\ u = + 1.244 \end{array}$$

from which,

$$\begin{array}{l} \delta\gamma = + .37 \text{ km.} \\ \delta K = - .62 \text{ km.} \\ \delta e = + .0017 \\ \delta\omega = + 1^\circ.44 \end{array}$$

and hence the new values of the elements,

$$\begin{array}{l} P = 5.969 \text{ days} \\ e = .0217 \\ \omega = 191^\circ.44 \\ \gamma = -17.13 \text{ km.} \\ K = 48.88 \text{ km.} \\ T = 2,419,362.52 \text{ J. D.} \end{array}$$

The value of Σprv was reduced from 25 to 16 — a very substantial reduction. Excellent agreement between computed and observation equation residuals showed that any further solution would be useless, and these elements were accepted as final.