

OBSERVATION EQUATIONS

	x	y	z	p	q	$-n$	Weight
1	1	+ 0.569	+ 0.031	- 1.161	+ 1.536	+ 2.2	1.5
2	1	- 0.307	- 1.260	- 1.113	+ 1.097	- 6.0	0.8
3	1	- 0.685	- 0.474	- 0.740	+ 0.465	0.0	1.3
4	1	- 0.785	+ 0.101	- 0.498	+ 0.201	+ 1.2	0.8
5	1	- 0.805	+ 0.830	- 0.070	- 0.101	- 1.1	0.7
6	1	- 0.659	+ 0.951	+ 0.304	- 0.280	- 4.2	1.2
7	1	- 0.152	+ 0.658	+ 0.535	- 0.381	+ 2.0	0.9
8	1	- 0.108	- 0.022	+ 0.718	- 0.194	- 0.4	1.0
9	1	+ 0.183	- 0.566	+ 0.760	- 0.579	+ 0.7	1.0
10	1	+ 0.413	- 0.920	+ 0.725	- 0.613	+ 2.0	1.0
11	1	+ 0.805	- 0.999	+ 0.511	- 0.669	+ 2.6	1.0
12 ...	1	+ 1.118	+ 0.063	+ 0.011	- 0.312	- 0.4	0.9
13....	1	+ 1.174	+ 0.806	- 0.356	+ 0.170	+ 0.8	0.7

where $x = \delta\gamma$

$y = \delta K$

$z = K\delta e$

$p = K\delta\omega$

$q = \frac{K\mu}{(1-e^2)^{\frac{3}{2}}} \delta T$

NORMAL EQUATIONS.

$$\begin{aligned}
 12.800x + 0.506y - 1.054z - 0.689p + 0.648q + 0.550 &= 0 \\
 + 5.864y - 1.384z + 0.372p - 0.126q + 9.124 &= 0 \\
 + 6.157z + 0.024p - 0.225q - 2.400 &= 0 \\
 + 6.297p - 6.127q + 3.414 &= 0 \\
 + 6.595q - 2.211 &= 0
 \end{aligned}$$

whence $\delta\gamma = 0.00$ km.

$\delta K = -1.46$ km.

$\delta e = 0.00$

$\delta\omega = -3^\circ.03$

$\delta T = -0.38$ day

The above corrections lowered Σpv^2 from 75.0 to 51.5 and agreement between the residuals computed from the ephemeris and the observation equations showed that further solutions would leave the elements unaltered.