ELEMENTS OF COMET 1903 II.

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This comet was discovered by GIACOBINI at Nice, France, on December 2, 1902. Elements were computed from three normal places formed from observations made at Washington and Lick. The method used is that given by OPPOLZER in Bahnbestimmung der Kometen und Planeten.

The observations are as follows:

Date.	Place.	Greenwich Mean Time.	Apparent α .	Apparent δ .	Red. to 1902.0	
					α	δ
1902		h m s	h m s	° ' "	s	"
Dec. 3	Washington.....	17 39 16	7 17 24.81	-1 50 3.4	-3.18	+15.5
5	Washington.....	18 50 27	7 16 49.46	-1 32 48.3	-3.20	+15.3
5	Lick.....	23 38 7	7 16 45.7	-1 31 2	-3.20	+15.3
6	Lick.....	19 1 55	7 16 30.7	-1 23 49	-3.21	+15.3
7	Lick.....	19 39 39	7 16 9.8	-1 14 30	-3.21	+15.4
7	Washington.....	16 58 31	7 16 12.05	-1 15 29.5	-3.21	+15.4
8	Washington.....	17 26 44	7 15 50.50	-1 5 58.5	-3.22	+15.4
9	Washington.....	16 24 7	7 15 29.04	-0 56 41.7	-3.23	+15.4

Elements.

$T = 1903$, April 1.7863, Greenwich Mean Time.

$$\begin{array}{r} \circ \quad ' \quad '' \\ \omega = 9 \ 47 \ 7 \\ \Omega = 117 \ 12 \ 35 \\ i = 43 \ 53 \ 29 \end{array} \left. \vphantom{\begin{array}{r} \omega \\ \Omega \\ i \end{array}} \right\} 1902.0$$

$$q = 2.6861$$

The residuals (O-C) to the middle place are $\cos \beta \Delta \lambda = -5''$ and $\Delta \beta = +3''$.

Heliocentric Coordinates 1902.0

$$\begin{array}{l} x = r [9.89614] \sin (225 \ 17 \ 27 + v) \\ y = r [0.00000] \sin (135 \ 6 \ 38 + v) \\ z = r [9.78999] \sin (44 \ 49 \ 2 + v) \end{array}$$