LICK OBSERVATORY BULLETIN

NUMBER 88

ELEMENTS AND EPHEMERIS OF COMET *c* 1905 (GIACOBINI)

The results given below were derived from the following observations:

1905 Gr. M.T.	Comet's Apparent.				Observer.
	α	δ			
Dec. 6.6837	14 ^h 21 ^m 39 ^s .4	+20° 59' 29"			Giacobini (Nice)
12.0773	14 48 05.7	+18 25 56			Smith
17.0768	15 15 04.9	+15 32 45			Smith

The geocentric distance and the heliocentric velocities for the middle date derived from the preliminary orbit given in Bulletin No. 87, and the observed position for the middle date, corrected for parallax and aberration, were adopted as a first approximation to the constants of the orbit. These give the residuals:

	I	III
(O — C) $\Delta\alpha \cos \delta$	—36"	+04' 22"
$\Delta\delta$	+16	—02 03

Differential corrections to the geocentric distance and heliocentric velocities were derived by Leuschner's adaptation of his "Short Method" to the computation of a parabola. As a check a second correction was attempted, but the residuals could not be removed completely.

ELEMENTS.

$T = 1906 \text{ Jan. } 22.41845 \text{ Gr. M. T.}$

$q = 0.217605$

Mean Equinox and Ecliptic 1905.0	Mean Equinox and Ecliptic 1906.0
$\omega = 199^\circ 01' 28''.1$	$\omega = 199^\circ 01' 28''.8$
$\Omega = 92 01 10.8$	$\Omega = 92 02 00.5$
$i = 43 38 36.8$	$i = 43 38 36.7$

	I	III
(O — C) $\Delta\delta$	+08".6	+02".4

CONSTANTS FOR THE EQUATOR 1905.0.

$$\begin{aligned} x &= r [9.859773] \sin (21^\circ 48' 51''.8 + v) \\ y &= r [9.984104] \sin (307 02 02.9 + v) \\ z &= r [9.868726] \sin (231 34 42.7 + v) \end{aligned}$$

CONSTANTS FOR THE EQUATOR 1906.0.

$$\begin{aligned} x &= r [9.859776] \sin (21^\circ 50' 01''.0 + v) \\ y &= r [9.984124] \sin (307 02 36.1 + v) \\ z &= r [9.868690] \sin (231 34 52.2 + v) \end{aligned}$$

In the computation of the following ephemeris I was assisted by Mr. A. J. Champreux.

EPHEMERIS FOR GREENWICH MEAN MIDNIGHT.

1905	True α				True δ			$\log r$	$\log \Delta$	Br.
Dec.	23.5	15 ^h	53 ^m	32 ^s .7	+10°	57'	13"	9.9509	0.0755	3.5
	25.5	16	06	23.8	+09	18	08		0.0671	
	27.5		19	40.0	+07	32	28	9.9042	0.0595	
	29.5		33	21.6	+05	40	12		0.0531	
Dec.	31.5	16	47	28.2	+03	41	31	9.8497	0.0479	
1906										
Jan.	2.5	17	02	00.1	+01	36	35		0.0446	
	4.5		16	57.8	—00	34	15	9.7849	0.0416	8.8
	6.5		32	22.6	—02	50	30		0.0408	
	8.5	17	48	16.9	—05	11	47	9.7056	0.0417	
	10.5	18	04	45.1	—07	37	35		0.0442	
	12.5		21	54.7	—10	07	31	9.6061	0.0482	
	14.5		39	57.9	—12	41	06		0.0537	24.8
	16.5	18	59	13.8	—15	17	36	9.4817	0.0603	32.4
	18.5	19	20	09.5	—17	54	56		0.0671	40.9
	20.5	19	43	14.8	—20	27	27	9.3593	0.0728	53.8
	22.5	20	08	35.3	—22	42	49		0.0758	58.6
	24.5	20	35	21.8	—24	25	22	9.3629	0.0752	52.3
	26.5	21	02	16.1	—25	27	19		0.0721	40.8
	28.5		28	25.5	—25	51	25	9.4871	0.0683	30.5
Jan.	30.5	21	53	28.2	—25	44	25		0.0652	22.7
Mar.	1.5	01	48	11.0	—06	02	44	0.0294	0.1806	1.5
Apr.	2.5	03	29	02.6	+07	09	50	0.2252	0.3627	0.3

Brightness December 6 = 1.00

R. T. CRAWFORD.

BERKELEY ASTRONOMICAL DEPARTMENT,

December 21, 1905.

CORRIGENDA.

Bulletin 86: Page 185 line 4 from bottom for —38' 35" read +2' 12".

Bulletin 87: In Elements, for $\log q$ read q .

R. T. CRAWFORD.