UNIVERSITY OF CALIFORNIA PUBLICATIONS

ASTRONOMY

LICK OBSERVATORY BULLETIN

NUMBER 404

OBSERVATIONS OF COMETS AND OF THE SATELLITE OF NEPTUNE

By

R. T. CRAWFORD

The following positions were obtained from photographs made with the Crossley reflector:

COMET *j* 1927 (SCHWASSMAN-WACHMANN)

1928 U. T.	$\alpha_{1928.0}$	$\delta_{1928.0}$	$\log p\Delta$	δ	Comparison Stars
Jan. 13 ^d 4 ^h 36 ^m 0 ^s	1 ^h 27 ^m 50 ^s .49	+19° 17' 08".1	9.472	0.500	Paris ph. +20°; 1 ^h 28 ^m : 144, 154, 158.
18 4 15 0	1 29 10.49	+19 17 29.9	9.465	0.497	ibid. : 167, 171, 174, 175.
20 3 46 0	1 29 45.99	+19 18 01.0	9.402	0.480	ibid. : 174, 182, 189, 192.
21 4 42 0	1 30 05.65	+19 18 26.2	9.549	0.530	ibid. : 182, 189, 192, 199.
Feb. 10 4 15 0	1 38 17.16	+19 38 17.8	9.617	0.569	Paris ph. +20°; 1 36 : 219, 225, 230, 231.
11 4 56 0	1 38 47.59	+19 39 56.4	9.662	0.613	ibid. : 225, 230, 231.

COMET *d* 1927 (STEARNS)

1928 U. T.	$\alpha_{1928.0}$	$\delta_{1928.0}$	$\log p\Delta$	δ	Comparison Stars
Apr. 26 ^d 10 ^h 59 ^m 0 ^s	17 ^h 38 ^m 34 ^s .34	+62° 13' 02".0	9.107n	0.565n	Vatican ph. +62°; 17 ^h 36 ^m : 70, 79, 84.
28 11 7 0	17 37 31.84	+62 38 11.9	8.740n	0.577n	ibid. : 97, 102, 107, 108, 112.
May 26 9 12 0	17 12 31.19	+67 02 54.8	8.603	0.641n	Gr. ph. +66°; 5483 : +67°; 5606, 5612, 5616.
June 14 7 14 0	16 48 38.56	+68 19 30.5	8.816n	0.657n	Gr. ph. +68°; 5858, 5862, 5873, 5878.
15 7 9 0	16 47 22.04	+68 21 14.5	8.809n	0.657n	ibid. ; 5858, 5870, 5878.

COMET *a* 1928 (REINMUTH)

1928 U. T.	$\alpha_{1928.0}$	$\delta_{1928.0}$	$\log p\Delta$	δ	Comparison Stars
Mar. 15 ^d 6 ^h 37 ^m 0 ^s	9 ^d 16 ^m 24 ^s .16	+23° 29' 13".5	8.992	0.328	Paris ph. +23°; 9 ^h 16 ^m : 40, 44, 46.
15 7 36 0*	9 16 25.11	+23 29 16.9	9.347	0.373	ibid. : 35, 39, 44.
17 8 36 0	9 17 14.68	+23 32 35.4	9.539	0.449	ibid. : 44, 56, 57.
Apr. 8 4 50 0	9 33 36.61	+23 01 52.1	8.509	0.333	Paris ph. +23°; 9 32 : 57, 63, 74.
9 4 54 0	9 34 39.05	+22 57 54.0	8.678	0.336	ibid. : 74, 81, 176.
14 6 17 0	9 40 12.65	+22 34 50.4	9.399	0.409	Paris ph. +23°; 9 40 : 128, 130, 133, 138.
23 5 00 0	9 51 11.71	+21 42 57.7	9.156	0.389	Paris ph. +22°; 9 52 : 153, 156, 159.
May 10 5 11 0	10 15 04.61	+19 31 58.1	9.395	0.474	Paris ph. +20°; 10 16 : 44, 46, 49, 50.
14 5 19 0	10 21 06.20	+18 56 05.8	9.447	0.498	ibid. : 69, 72, 74, 79.
June 6 5 30 0	10 57 25.24	+15 03 37.0	9.574	0.600	Bordeaux ph. +16°; 10 56 : 134, 143, 145.
7 5 25 0	10 59 02.05	+14 52 45.4	9.570	0.600	ibid. : 156, 160, 163, 165.
14 5 30 0†	11 10 25.99	+13 35 09.2	9.598	0.626	Bordeaux ph. +14°; 11 12 : 36, 37, 38, 42.
15 5 30 30†	11 12 04.20	+13 23 49.9	9.601	0.630	ibid. : 44, 49, 53.

* Plate measured and reduced by L. B. Berman.

† Image of the comet is very faint and difficult to measure.

All of the parallax factors for these observations, as well as those for the visual observations which follow, were computed by Miss Rebecca Jones.

The following positions of Comet *d* 1927 (Stearns) were obtained with the 36-inch refractor. Corrections for differential refraction have been applied.

COMET <i>d</i> 1927 (STEARNS)											
1928 U. T.		Star	No. of Comp.	Comet—Star $\Delta\alpha$ $\Delta\delta$		α 1928.0		δ 1928.0		$\log p\Delta$	δ
May 12 ^d	6 ^h 50 ^m 0 ^s	1	3,*10	+ 0°01	+1' 14".1	17 ^h 27 ^m 28. ^s 38	+65° 10' 24".4	9.938n	0.243n		
16	7 25 30	2	6, 10	−30.72	−0 19.9	17 23 37.72	+65 47 15.2	9.840n	0.462n		
24	6 34 45	3	10, 10	+ 7.13	+2 05.0	17 15 00.27	+66 49 06.1	9.883n	0.453n		
June 9	6 38 0	4	10, 10	−18.75	+3 11.8	16 55 05.20	+68 07 28.5	9.600n	0.622n		
16	10 8 12	5	10, 10	+ 7.73	−0 16.1	16 45 57.26	+68 22 50.3	9.944	0.438n		

* After three settings I could not tell which was preceding, the comet or the star. So I consider this as good as ten settings where there is an appreciable difference in right ascension.

MEAN PLACES OF COMPARISON STARS FOR 1928.0					
Star	α		δ		Authority
1	17 ^h 27 ^m 28. ^s 37	+65° 09' 10".3	A. G. Christiania 2665.		
2	17 24 8.44	+65 47 35.1	Crossley photographic by L. B. Berman. −14½ mag.		
3	17 14 53.14	+66 47 01.1	Greenwich astrographic +66° : 5463.		
4	16 55 23.95	+68 04 16.7	A. G. Christiania 2563.		
5	16 45 49.53	+68 23 06.4	A. G. Christiania 2536.		

1928 U. T.		p	s	Wt.
Feb. 13 ^d	6 ^h 35 ^m	259.3		2
13	7 05		9".34	2
19	7 12	244.2		1
19	7 34		8.57	1
Mar. 10	10 33	100.5	11.23	1
18	7 24	320.8		2
18	7 35		16.83	2
Apr. 15	7 44	41.1	8.22	5
22	6 29	330.2		1
....	6 53		15.94	1
May 2	5 00	110.7	12.09	2
12	4 58	180.6	10.94	2
16	5 19	316.0	16.22	3
24	4 51	166.1	12.83	5
June 1	5 01	57.3	8.37	3

The weights assigned are my estimates of the relative value of the measures based upon seeing conditions, swaying of the telescope in the wind, and number of settings made. Conditions for the observations weighted 5 were excellent.

All of the satellite observations were made with the 36-inch refractor with a power of 270.

LICK OBSERVATORY,
June 18, 1928.
Issued July 2, 1928.