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take the arithmetical mean of the quantities in the column headed $(\varphi_1 - \varphi_2)$, giving all equal weights, we have

$$(\varphi_1 - \varphi_2) = 0''.374 \pm 0''.044.$$

This result is practically identical with the preceding.

φ_1 1877	φ_2 1886	$\varphi_1 - \varphi_2$	φ_1 1877	φ_2 1886	$\varphi_1 - \varphi_2$	φ_1 1877	φ_2 1886	$\varphi_1 - \varphi_2$	φ_1 1877	φ_2 1886	$\varphi_1 - \varphi_2$
40° 36'	40° 36'		40° 36'	40° 36'		40° 36'	40° 36'		40° 36'	40° 36'	
"	"	"	"	"	"	"	"	"	"	"	"
23.24	23.43	-0.19	24.62	24.01	+0.61	24.27	23.71	+0.56	24.09	22.81	+1.28
23.83	23.90	-0.07	23.55	22.46	+1.09	24.04	23.37	+0.67	23.80	23.29	+0.51
23.72	23.39	+0.33	24.03	22.48	+1.55	24.01	23.22	+0.79	24.26	23.40	+0.86
24.25	23.56	+0.69	23.76	23.64	+0.12	24.52	24.24	+0.28	24.60	24.24	+0.36
24.16	23.83	+0.33	23.82	23.08	+0.74	24.13	23.78	+0.35	24.73	24.79	-0.06
23.24	23.53	-0.29	23.68	23.59	+0.09	23.61	23.22	+0.39	24.02	23.26	+0.76
23.45	23.02	+0.43	23.97	23.37	+0.60	24.25	24.29	-0.04	23.90	23.74	+0.16
23.57	23.29	+0.28	23.26	22.81	+0.45	24.16	24.06	+0.10	23.97	23.40	+0.57
23.58	23.60	-0.02	23.37	24.15	-0.78	24.34	23.97	+0.37	23.29	23.33	-0.04
23.38	22.95	+0.43	23.44	23.17	+0.27	23.07	22.43	+0.64	24.41	24.70	-0.29
24.23	23.98	+0.25	24.05	24.75	-0.70	23.43	23.82	-0.39	23.81	23.40	+0.41
23.82	23.09	+0.73	24.41	24.36	+0.05	24.05	24.36	-0.31	23.39	23.29	+0.10
23.71	22.55	+1.16	25.12	23.89	+1.23	24.05	23.45	+0.60			
23.72	22.68	+1.04	23.60	24.16	-0.56	23.64	23.37	+0.27			Mean = 0.374
24.32	23.59	+0.73	24.30	22.96	+1.34	23.87	23.37	+0.50			± 0.044

The results are given for what they may be worth, the interpretation of the evidence for or against a change of latitude being left to the judgement of the reader.

Lehigh University, S. Bethlehem, Pa.

ELEMENTS AND EPHEMERIS OF COMET OF FINLAY, (1886 e).

BY REV. G. M. SEARLE.

I have computed the following elements for FINLAY'S comet, on the assumption of a period of 5.278 years, giving 8 revolutions since 1844. The observations used were the discovery-observation of September 26, that by Mr. EGBERT, at Albany, on October 16, and a comparison which I obtained with ψ Sagittarii on Nov. 4. This last gave for 1886.0

$$\text{Nov. 4.492 G.M.T. } \alpha \quad \delta \\ 19^{\text{h}} 9^{\text{m}} 37^{\text{s}}.0 \quad -25^{\circ} 28' 2''$$

Two hypotheses were made for M , the ratio of the curtate distances, and one interpolated to agree in longitude with the middle place. The resulting elements are

T	Nov. 21.909.	Greenw.M.T.
Ω	53° 47' 48"	} 1886.0
π	10 51 22	
i	2 57 29	
$\log e$	9.83294	
$\log q$	9.98588	
$\log a$	0.48164	
$\log \mu$	2.82755	

They represent the middle place as follows :

$$\begin{matrix} \Delta\lambda & \Delta\beta \\ + 6'' & + 15'' \end{matrix}$$

and seem to be about the best representation that can be
New York City, 1886 Nov. 13.

made of it with the assumed period; but as the observation of October 16 is not considered by Mr. EGBERT of much value in latitude, and as that of November 4 was also only rough, it would be useless to attempt to deduce any period from the materials used.

These elements give the following ephemeris for Greenwich midnight; the unit of light is that at the time of discovery.

Date	α 1886.0	δ 1886.0	$\log \Delta$	Light
Nov. 17	20 ^h 7 ^m 26 ^s	-22° 52.1'	9.9231	2.7
19	16 56	22 17.9	9174	2.8
21	26 35	21 40.8	9118	2.9
23	36 22	21 0.6	9063	3.0
25	46 19	20 17.3	9009	3.1
27	56 23	19 30.8	8957	3.1
29	21 6 34	18 41.2	8907	3.2
Dec. 1	16 52	17 48.4	8860	3.2
3	27 16	16 52.4	8816	3.3
5	37 46	15 53.4	8776	3.3
7	48 21	14 51.3	8740	3.3
9	59 0	13 46.4	8709	3.3
11	22 9 42	12 38.8	8682	3.3
13	20 26	11 28.8	8661	3.3
15	31 13	-10 16.5	8646	3.2

I have obtained the following observations of the comet. They may be somewhat rough, but any observation must be so unless the nucleus is well marked. I have taken approximate account of differential refraction.

1886	Greenw. M.T.	$\Delta\alpha$	$\Delta\delta$	1886.0	
				α	δ
Nov. 15	11 ^h 42.0 ^m	+3 ^m 16.2 ^s	-22' 12"	19 ^h 57 ^m 53.6 ^s	-23° 25' 10"
18	11 32.7	+0 27.5	-28 21	20 11 47.0	-22 38 0
19	11 37.3	+5 11.0	-11 2	20 16 30.5	-22 20 41

The comparison-star on November 15 was Lac. 8308; and on the other two dates F. 3 *Capricorni*. The places for 1886.0 taken from the Cordoba Catalogues, are
1886 *November* 20.

19^h 54^m 37.40^s -23° 2' 58.5"
20 11 19.53 -22 9 39.3

G. M. S.

NEW ASTEROIDS.

An asteroid was announced, November 1, as discovered by Dr. C. H. F. PETERS, at Clinton, N.Y., in the position

(261) Oct. 31.790 Gr.M.T. $\alpha = 1^h 40^m$ $\delta = + 4^\circ 29' 13''$
Daily Motion -56^s in α , and $4'$ southward; 11^m .

Mr. RITCHIE of the *Science Observer* has also courteously transmitted the cable-telegrams received by the S. O. code from Dr. KRUEGER, announcing the discovery of two more on the night of November 3 by Dr. PALISA at Vienna.

(262) Nov. 3.4822 Gr.M.T. $\alpha = 2^h 18^m 51^s.7$ $\delta = + 14^\circ 2' 17''$
Motion slow northward; 12^m .

(263) Nov. 3.4935 Gr.M.T. $\alpha = 2^h 17^m 58^s.3$ $\delta = + 13^\circ 46' 35''$
Daily Motion -48^s in α , and $3'$ southward; 12^m .

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Closed *November* 22.