ART. XII.—*On the Orbit of the planet Urda* (167); by C. H. F. PETERS.

THIS planet was discovered as a star of 12th magnitude on August 28th ult., and the observations obtained, after applying corrected star positions, are the following, each being the mean from twelve comparisons by ring-micrometer.

1876.	Ham. Col. m. t.			App. α (167).			App. δ (167).		
	h	m	s	h	m	s	°	′	″
Aug. 28,	14	18	21	21	58	32·22	−11	23	41·2
" 30,	13	35	16	21	57	2·27	−11	33	23·3
Sept. 12,	12	48	43	21	48	16·70	−12	31	14·2
" 15,	12	19	28	21	46	38·63	−12	42	24·8

It seems that the planet has not been seen anywhere else; and the orbit therefore had to be evolved from the foregoing observations alone, however unequally distributed over an interval of only eighteen days. I succeeded by computing first a circular orbit, which served for freeing the observations from aberration and parallax, and then using of the eight data the four longitudes and the two extreme latitudes. The final ellipse arrived at is the following:

Epoch, 1877, Jan. 0·0 Berlin m. t.

$L = 317° 43′ 27·4″.$
$\pi = 32° 39′ 22·2″ + 50·24″$ (t. − 1876).
$\Omega = 170° 7′ 25·4″ + 49·25″$ (t. − 1876).
$i = 1° 42′ 14·5″ − 0·47″$ (t. − 1876).
$\varphi = 18° 10′ 30·6″.$
$\mu = 614·475″.$
$\log a = 0·507668.$

Of these elements, three, viz., node, inclination and major axis, bear a remarkable resemblance to those of Gerda (122). Moreover, the element of the excentricity, as it is derived from so short an arc in our orbit, remains necessarily very uncertain. The same is the case, though in less degree, and for the same reason, with the position of the apsides, or the longitude of perihelion. Only the remaining 6th element, therefore, can decide, whether the two planets are identical. Now, for the same epoch we have for Gerda $L = 168° 46′$, and as the correctness of Mr. Stockwell's computations of Gerda are fully confirmed by observations upon this planet made at Berlin in April last, it is proved that Urda is distinct from Gerda.

The fact of two planets moving in the same plane, with the same time of revolution, having also the line of apsides in common (our elements, if correct, show a longitude of perihelion nearly 180° distant from Gerda's), but with a widely different

excentricity, is worthy of note. And it is therefore still more desirable, that Urda should not pass unnoticed in its next opposition, which will occur in January, 1878, and when the planet will be of the 12·7 magnitude.

Litchfield Observatory of Hamilton College, Jan. 6, 1877.