

Adopted mean places of comparison stars.

*	$\alpha$ 1883.0	$\delta$ 1883.0	Authority	*	$\alpha$ 1883.0	$\delta$ 1883.0	Authority
1	23 <sup>h</sup> 29 <sup>m</sup> 11 <sup>s</sup> .28	+31° 11' 20".90	W <sub>2</sub> 23 <sup>h</sup> 595	15	1 <sup>h</sup> 55 <sup>m</sup> 43 <sup>s</sup> .36	+29° 42' 30".17	Ll. 3734
2	23 29 43.14	31 33 2.40	W <sub>2</sub> 23 602	16	2 0 51.92	29 11 7.89	1/2(W <sub>2</sub> 1 <sup>h</sup> 14 17-19+Ll. 3882)
3	23 52 51.42	31 43 48.83	W <sub>2</sub> 23 1073	17	2 5 37.30	28 39 8.81	1/2(W <sub>2</sub> 2 <sup>h</sup> 69+Ll. 4036)
4	0 4 46.25	32 1 43.83	W <sub>2</sub> 0 56, 57	18	2 14 2.29	28 11 54.30	Ll. 4322
5	0 4 46.25	32 1 43.83	W <sub>2</sub> 0 56, 57	19	2 23 49.45	27 16 42.83	BB. VI +27°391
6	0 35 47.05	31 58 11.80	W <sub>2</sub> 0 899	20	2 43 5.79	26 46 40.42	1/2(Yarnall 1221+Gr. 9 Yr. C. 261)
7	0 52 43.37	31 49 27.50	W <sub>2</sub> 0 1315	21	2 40 22.03	26 14 54.35	1/2(W <sub>2</sub> 2 <sup>h</sup> 937+Ll. 5123)
8	0 49 38.70	31 42 33.50	Ll. 1558	22	2 58 37.73	25 24 47.01	1/2(W <sub>2</sub> 2 <sup>h</sup> 1370+BB. VI +25°484)
9	0 59 45.27	31 33 20.30	1/2(W <sub>2</sub> 0 <sup>h</sup> 1464+Armagh 228)	23	3 36 49.53	20 20 45.76	Piazzi 3 <sup>h</sup> 124
10	1 15 39.06	31 5 34.25	1/2(W <sub>2</sub> 1 <sup>h</sup> 279+Ll. 2439, 2440)	24	4 1 59.00	18 0 47.16	DM. +17°684. Determ. by 5 Fil. Micr. comps. with W <sub>2</sub> 4 <sup>h</sup> 10.11
11	1 18 59.68	30 56 33.55	BB. VI 30°218	25	4 5 54.63	17 31 55.99	1/2(W <sub>2</sub> 4 <sup>h</sup> 65+Y. 1801)
12	1 28 52.40	30 41 20.60	1/2(Str. Pos. Med. 129+Ll. 2869)	26	4 11 10.36	+17 6 41.84	Rümk. 1142
13	1 36 17.02	30 26 11.34	1/3(W <sub>2</sub> 1 <sup>h</sup> 802.3+Ll. 3126 +R. 397)				
14	1 43 55.60	+29 53 29.40	Ll. 3335				

Remarks.

This comet had a very marked central condensation, and was easy to observe, even in strong moonlight. In every case a power of 175 was used, and the threads directly illuminated.

Feb. 26. This observation was used in Science observer special circular, Nr. 32.

March 11. The final corrections -4 and +4 were applied to the Position from Struve.

March 12. The place of W<sub>2</sub> 1<sup>h</sup> 803, was corrected from the »Positiones emendatae«.

Glasgow 1883 April 14.

March 20. This star is 41 Arietis.  
April 7. The differences, corrected for refraction were DM. 17°684 - W<sub>2</sub> 4<sup>h</sup> 10-11

$$\Delta\alpha = -1^m 56^s 98, \Delta\delta = -6' 14'' 34.$$

April 8 and 9. On these nights there were two centres of condensation, very near together.

The differential refraction was applied to the measured differences, whenever appreciable.

C. W. Pritchett.

On the Variability of 36 (Uran. Argentina) Ceti.

0<sup>h</sup> 15<sup>m</sup> 26<sup>s</sup> - 20° 45' 1" (1875).

During the past season I obtained about fifty observations of this star, whose variability I discovered in the winter of 1881-82, but have not been able to determine its period. The general character of the variations apparently

indicates that the star is of the type of R Scuti. The range of fluctuation is from 5.2 mag. to 6.3 or 6.4 magnitude.

The comparison stars and the provisional light scale adopted are as follows:

Uran. Argent.	1875	Ur. Arg. Mag.	Light Scale
No. 15 = 6 Ceti	0 <sup>h</sup> 4 <sup>m</sup> 54 <sup>s</sup>	-16° 8'.9	5.1 17
18 = Ll. 72	5 47	-18 37.9	5.4 12
13 = Ll. 47332	2 10	-18 16.3	6.2 6
10 = Ll. 47280	0 55	-18 5.0	6.3 4
28 = Ll. 234	10 22	-20 54.3	6.5 3
29 = Ll. 257	11 12	-19 44.7	6.6 0

There is some doubt about the proper order of the star Uran. Arg. Nr. 28 = Ll. 234 in the light scale, which cannot be cleared up until more observations are obtained. This uncertainty cannot affect the following determinations of brightness of the variable more than a small fraction of a step, as comparisons were made with three or four stars on each evening.

Light of the Variable.

	L.		L.
1881 Dec. 18	14.0	1882 Aug. 12	8.8
	19 14.0		13 9.0
1882 Jan. 7	14.5		19 9.7
	9 14.5		20 10.0
	24 10		21 9.3
	29 6.3	Sept. 5	6.3
Feb. 1	5.0		7 7.0
	2 5.0		12 9.7
	6 5.0		14 10.7
	8 4.0		27 8.3
	11 4.0	Oct. 9	7.7
	15 4.5	Nov. 2	11.0
June 22	6.2		9 11.5
	29 9.2		17 11.2
July 6	8.5		24 11.5
	23 13.0		27 13.5
	25 12.2	Dec. 3	11.5
Aug. 2	8.5		8 13.2
	6 5.3		12 12.5
	9 7.5		20 9.0
	11 6.0		24 6.8

Harvard College Observatory 1883 May 6.

	L.		L.
1882 Dec. 29	9.3	1883 Jan. 4	8.5
	30 10.0		16 5.0
1883 Jan. 1	9.3		26 5.2
	3 9.3		

A chart of the above observations shows more or less decided phases on the following dates

Maxima.	Minima.
1882 Jan. 7	1882 Feb. 10
July 23	Aug. 6
Nov. 27	1883 Jan. 16

These times may be satisfied with a period of about 65 days; but the indications are, either that this is a multiple of the true period, or that the light curve has well marked secondary phases.

Although the star attains nearly the 5 mag. at maximum, it does not occur in Argelander's Uranometry, Heis's Atlas, or Houzeau's Uranometrie Générale. The Uran. Argentina gives it as 6.5 mag., and Dr. Gould writes me that it was never observed brighter than 6.3 at Cordoba. Lalande observed it twice as 6 m; Argelander twice (Southern Zones) as 6 and 6.7 m; Schmidt twice as 6.0 m., (BB. VI), and at Washington in 1848 it was called 5 m. in the mural circle on Aug. 31, and on Sept. 1 as 5 m. in the mural circle, and on the same night as 6.7 m. in the Transit instrument. The whole range of variation being only a magnitude and a quarter, these telescopic estimates are not of much significance. The star is noticeably red.

S. C. Chandler jr.

New Planetary Nebulae.

The two objects, the places of which are given below, have the spectra of gaseous nebulae, but otherwise resemble stars. They were detected 1883 May 8.

$\alpha$ 1880.0	$\delta$ 1880.0	Magn.	Remarks
19 <sup>h</sup> 6 <sup>m</sup> 32 <sup>s</sup>	+ 46° 4' 2"	11	Also faint continuous spectrum.
19 46 21	+ 48 39.5	12	

Harvard College Observatory, Cambridge, U. S., 1883 May 12.

Edward C. Pickering.

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