

Ephemeride für 12^h Berliner Zeit.

1877	α	δ	$\log \Delta$	$\log r$	Lichtstärke
Sept 21	8 ^h 26 ^m 44 ^s	+ 46° 18' 0	0.2172	0.1823	1.17
25	8.22.44	45. 5.3	0.1962	0.1816	1.30
29	8.17.53	43.47.5	0.1735	0.1816	1.44
Oct. 3	8.12. 3	42.22.7	0.1489	0.1821	1.61
7	8. 5. 6	40.48.7	0.1225	0.1832	1.81
11	7.56.50	39. 2.7	0.0942	0.1849	2.04
15	7.47. 2	37. 1.0	0.0642	0.1871	2.32
19	7.35.29	+ 34.39.0	0.0328	0.1899	2.65

Die Lichtstärke bei der Beobachtung vom 14. September ist als Einheit genommen.

On Schmidt's Nova Cygni.

On September 2nd 1877 I examined this star with the 15-inch Refractor of this observatory. It was found to be of the 10.5 magnitude and of a decided blue tint, especially when viewed in the same field with the reddish star B. D. + 42^o4184 which it precedes by about 25^s. Viewed through a low power eye-piece and a powerful direct vision prism, held between the eye & the eye-piece, the light of the star was found to be absolutely monochromatic. A single prism Browning Spectroscope with a slit, but without a cylindrical lens gave a star-like image without a trace of a continuous Spectrum. A few hurried measures were all that could be obtained, they indicated a wave-length of 512^{mm}.; but great uncertainty attaches to this determination as a slight derangement of the Spectroscope prevented the introduction of a comparison Spectrum.

On September 3rd Lord Lindsay made 13 measures of the wave-length, with a Grubb spectroscope giving a dispersion of 3^o1/2 from B. to Z. The very reliable result was 498^{mm}.6. A single measure of mine gave 496.1.

It will be at once seen that the light of this remarkable star is most probably identical in wave-length

with the Nitrogen line 498.7 or possibly with one or both of the lines 500.4 and 495.66, (D'Arrest, Under-sögelser over de nebulose Stjerner. Copenhagen, 1872) occurring in the spectra of nebulae.

Lord Lindsay found 500^{mm}.8 and 493.5 as limiting wave-length between which the whole width of the line must be enclosed.

Bearing in mind the history of this star from the time of its discovery by Schmidt it would seem certain that we have an instance before us in which a star has changed into a planetary nebula of small angular diameter. At least it may be safely affirmed that no astronomer discovering the object in its present state would, after viewing it through a prism, hesitate to pronounce as to its present nebulous character.

Judging from the brightness of the star in the finders of 3³/₄ in. aperture it is probable that a refractor of 5 inches aperture would be sufficient to show the monochromatic nature of its light when viewed through a small direct-vision prism.

Ralph Copeland.

Lord Lindsay's Observatory
Dunecht, Sept. 5, 1877.

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