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SPECTROSCOPY OF NOVA SCORPII 1985

Following the discovery on 24 September 1985 of this nova by one of us (W.L.), the other author (T.R.) was able to obtain spectrograms on 3 successive nights: 7, 8, and 9 October, using the ESO 1.52 m telescope equipped with an image dissector scanner.

A reproduction of one of the spectrograms taken on the middle night is shown in Figure 1. The scale of the ordinate is in units of relative intensity; no appreciable changes can be seen over the span of three nights.

The average intensity ratio  $H\beta/H\gamma$  over the three nights is  $4.0 \pm 0.1$ , indicating considerable interstellar extinction. (The unreddened value should be close to 2.15). We calculate that  $E(B-V) = 1.3$ , and combining this value

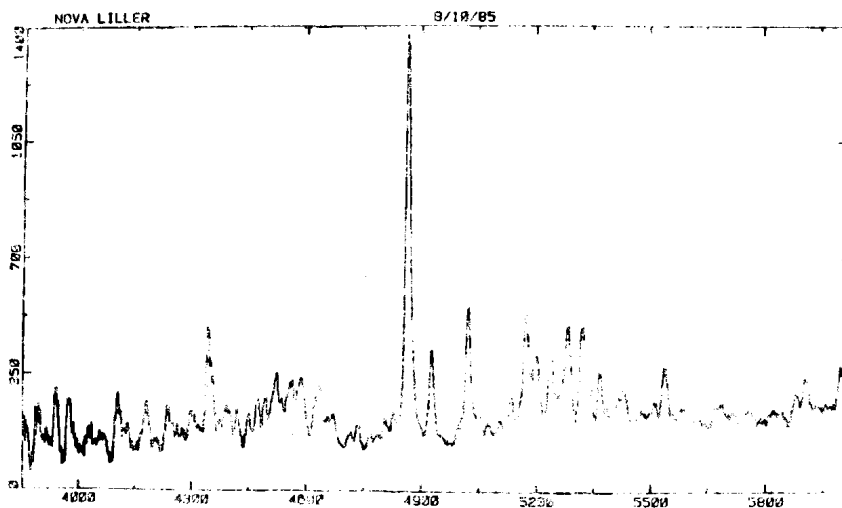


Figure 1

with the apparent magnitude at discovery of 10.5 (Liller, 1985) and assuming that the absolute magnitude of the nova was -7.5 at time of discovery, we derive a distance of 6.3 kpc.

Other prominent lines in the spectra are [OIII] at 4959, 5007 Å, and numerous [FeII] lines between 5100 and 5400 Å. Other lines include CaII at 3933 and 3969 Å, H $\beta$ , [OI] at 5577 Å, and the NaI D-lines.

An objective prism photograph taken by W.L. on 5 October (which was used to confirm that the star was indeed a nova) shows H $\alpha$  strongly; no continuum is apparent.

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Reference:

Liller, W., 1985, IAU Circ., No.4118.