

SIMULTANEOUS ULTRAVIOLET AND OPTICAL SPECTROPHOTOMETRY
OF DWARF NOVAE

G.T. Bath,* J.E. Pringle,† J.A.J. Whelan†

*Department of Astrophysics, South Parks Road, Oxford.

†Institute of Astronomy, Madingley Road, Cambridge.

We present spectrophotometric observations of three southern dwarf novae - BV Cen, EX Hya and VW Hyi - in the wavelength range 1250 - 7500Å. Because of the rapid variability of these objects, spectra were obtained simultaneously using the IUE satellite and the Anglo-Australian Telescope. BV Cen and EX Hya were observed in quiescence and VW Hyi on the decline from outburst.

The continuum spectra of the two short period objects VW Hyi and EX Hya fit closely the standard steady accretion disc spectra. VW Hyi fits a power law spectrum $S_{\nu} \propto \nu^{\alpha}$ with $\alpha = 0.35 \pm 0.05$, and the lack of turn over at the short wavelength end implies a maximum disc temperature $T_{\max} > 80,000$ K. At the time of observation less than 1 per cent of the accretion luminosity was being radiated at optical wavelengths, providing a dramatic illustration of the uncertainties involved in trying to estimate accretion rates from optical observations alone.

The quiescent spectrum of EX Hya fits a disc spectrum with $T_{\max} = 35,000$ K, implying that about 7 per cent of the accretion luminosity is radiated at optical wavelengths.

The quiescent spectrum of BV Cen (binary period 14½ hours) differs markedly from the other two. As expected for such a long period system the red star dominates the optical spectrum. Although most of the spectral energy is received at long wavelengths, a small amount of reddening would vitiate this conclusion.

The full results of these observations will be published elsewhere (Bath, Pringle and Whelan, 1979).

REFERENCES

Bath, G.T., Pringle, J.E. and Whelan, J.A.J. 1979. Mon.Not.R.astr.Soc., in press.