

SPECTROSCOPY OF THE PRIMARY AND SECONDARY COMPONENTS OF THE
DWARF NOVA AH HERCULIS

A. BRUCH

Astronomisches Institut, Universität Münster, Münster, F.R.G.

ABSTRACT.

The dwarf nova AH Her belongs to those cataclysmic variables which show a composite spectrum in the optical range, containing emission lines from the accretion disk and absorptions from the secondary star. This has been shown by Horne et al. (1986). Anticipating the composite nature of the spectrum from the the B-V colour of AH Her, which is intrinsically redder than 0.3^m , I took spectra of the system in four nights in June 1984 at the 1.2-m-telescope of the DSAZ on Calar Alto in order to detect the secondary component. The wavelength range observed was 5300 Å - 7150 Å. Apart from H in emission which behaves in the same way as described by Horne et al., the spectra show in fact a definite absorption of the Na D lines to be attributed to the secondary star. The linestrength and the absence of any strong TiO features confines the spectral type of the secondary to between K2 and M0. It is possible to calculate the relative contributions of the primary and secondary to the total light at the wavelength of Na D as a function of the exact spectral subtype of the secondary, using the measured equivalent width of the Na D lines. Taking

Paper presented at the IAU Colloquium No. 93 on 'Cataclysmic Variables. Recent Multi-Frequency Observations and Theoretical Developments', held at Dr. Reimis-Sternwarte Bamberg, F.R.G., 16-19 June, 1986.

Astrophysics and Space Science **130** (1987) 123-124.

© 1987 by D. Reidel Publishing Company.

the spectral gradient of primary and secondary from the current literature the same can be done for the effective wavelength of the V band. It is then straightforward to calculate the system's absolute visual magnitude and the distance. It turns out that AH Her is one of the intrinsically brightest dwarf novae known, regardless of the exact spectral subtype of the secondary.

A complete account of the observations of AH Her and of the interpretations is given in a paper which has been submitted to *Astronomy and Astrophysics*.

REFERENCE

Horne, K., Wade, R. A., and Szkody, P.: 1986, *Mothly Notices Roy. Astron. Soc.* 219, 791.