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UBV-IR PHOTOMETRY AND OPTICAL SPECTROSCOPY OF THE GALACTIC OB ASSOCIATION BOCHUM 7

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The lack of tightly bound and easily identifiable young open clusters leads to the quest for OB associations as tracers of spiral arms. Massive stars are usually found in groups, and the presence of a Wolf-Rayet star, WR12 in the catalogue of galactic WR stars (van der Hucht 2001), at α=8^{h}44^{m}47.2^s, δ=−45°58'55.5" (J2000.0), triggered the search for an surrounding OB association, now known as Bochum7 (Moffat & Vogt 1975).

From UBV imaging of a 30 arcmin field surrounding WR12, obtained at CTIO, Chile, aperture photometry was obtained to select candidates and optical spectroscopic observations were obtained in CASLEO, Argentina, for over one hundred stars. 63 stars were classified as OB type, 36 of these with spectral types never published previously. Figure 1 shows some OB spectra of these 63 stars.

The OB stars were used to test the properties of the interstellar dust in the line of sight and the relation between the diffuse interstellar band at 4428 Å which grows linearly with $E_{(B-V)}$ until 1 mag (Figure 2). Combining our data with 2MASS IR photometry with the aid of the CHORIZOS code (Maíz-Apellániz 2004), the combined spectrophotometric information was also used to analyse fundamental stellar parameters (such as Teff) and probe changes in the interstellar medium behaviour. For this we used the atmospheres of Kurucz (2004) with Z = 0.0 and main sequence gravity as model atmospheres. For stars near to IRAS Point Source, the value of R was greater than 3.7 and for those stars with emission lines where the R determination was unreliable, we replaced that value by R = 3.6 ± 0.3 obtained averaging all values of R resultants for each star of the CHORIZOS code. With the value of R and the $E_{(B-V)}$ obtained with the CHORIZOS code we obtained a mean distance of 4.2 kpc for the 63 OB stars.

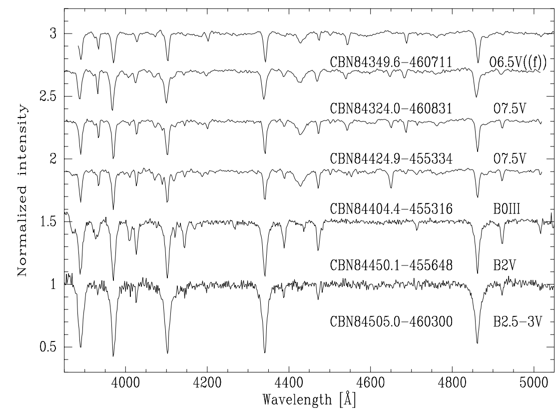

Fig. 1. Sample spectra of stars in the region of Bochum7. This figure includes a range of O and B spectral types.

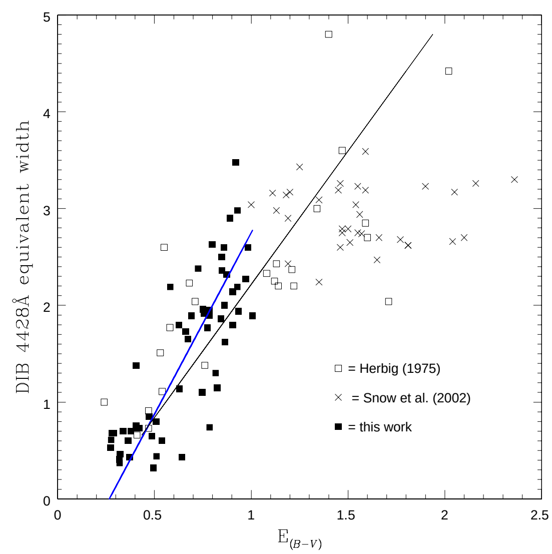

Fig. 2. Correlation of λ4428 equivalent width with colour excess $E_{(B-V)}$.

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REFERENCES

Kurucz, R. 2004, `http://kurucz.harvard.edu`
Maíz-Apellániz, J. 2004, PASP, 116, 859
Moffat, A. F. J., & Vogt, N. 1975, A&AS, 20, 85
van der Hucht, K. A. 2001, NewA Rev., 45, 135