

B. Baschek, M. Beltrametti, J. Köppen, G. Traving
Institut für Theoretische Astrophysik
Im Neuenheimer Feld 294, 6900 Heidelberg

ABSTRACT

On the basis of high-dispersion spectra (I. Appenzeller, C. Bertout) and other observational material HD 200775 has been reanalyzed using γ Her as a comparison star. By comparing the depths in the wings of H γ and H δ and the equivalent widths of HeI-lines with predictions from model atmospheres we find for both stars $T_{\text{eff}} = 17000 \pm 1000$ k (in the scale of Kurucz' models, 1979) and $\log (g \text{ cm s}^{-1}) = 3.6 \pm 0.3$ corresponding to a spectral type of B3V. With a colorexcess $E_{B-V} = 0.56$ and the standard interstellar reddening also the continuum energy distribution of HD 200775 corresponds to the above photospheric parameters if one allows for some circumstellar emission. However, the interstellar absorption features (4430 Å and 2200 Å) are of unusual weakness. The strength of the H α emission requires either a nonthermal source of energy or a substantial rate of photo ionization from the level $n = 2$. We tend to conclude that for this second reason the dilution factor in the HII-region cannot be less than 10^{-2} , a conclusion which is in accord with the finding that the radio emission at $\lambda = 2$ cm is less than 0.3 mJ which also indicates a very compact HII-region.