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Comparison of photometric and spectroscopic parameters of eclipsing contact binary stars

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Abstract content
   (Max 300 words)
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Special chars

To model an eclipsing contact (EC) binary star requires the temperature of at least one of the components, usually T₁, and the mass ratio q. Other parameters are determined by minimizing residuals between the model and phase-magnitude data. Rucinski et al. (2005) have pointed out that model solutions of EC stars obtained from photometric data are unreliable because the photometrically determined mass ratios are different to those determined from spectroscopic data. The temperatures determined from colour indices are also found to differ from those determined spectroscopically. Clearly, in order to produce reliable models of these stars requires a combination of photometric and spectroscopic data. Using the SpCCD spectrograph on the 1.9m telescope at the South African Astronomical Observatory in Sutherland, spectroscopic data were obtained for selected EC stars. The results of the observations and a comparison of the photometrically and spectroscopically determined temperatures and mass ratios are presented.

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PhD

Main supervisor (name and email)
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