

Synthetic Spectra for Carbon-Rich Long-Period Variables

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We have computed exploratory synthetic spectra for carbon-rich long-period variables by using the dynamical model atmospheres of Höfner et al. (see their abstract in this volume) as input for the spectral synthesis code of Jørgensen et al. (e.g. *A&A*, 261, 263, 1992). We compare the atmospheric structure of an extended, hydrostatic model atmosphere computed with the MARCS code with a corresponding hydrostatic initial model of Höfner and a few selected dynamical models. We find an overall agreement between the models in the range where the spectra are formed. Synthetic opacity-sampling spectra of two different models are shown for the three molecules C₂, CN and HCN for different phases of the light curve.

Since the symposium, we have compared the synthetic spectra presented here with ISO SWS spectra of the semi-regular carbon star R Scl (Hron et al. 1998, *A&A*, 335, L69) and the carbon Mira T Dra (Loidl et al. 1997, *Astrophys. Space Sci.*, 251, 243).

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