Comparison between ISO-SWS observations and synthetic spectra of K and M giants

α Boo and β Peg

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Abstract

The photometric absolute calibration of ISO-SWS is reliable up to 30% and the relative calibration up to 10%. To judge the obtained ISO-SWS spectra on their reliability, we compare them with synthetic spectra.

The detailed comparison between the ISO-SWS data for the K2III giant α Boo and the M2.5III giant β Peg and the synthetic spectra generated by the use of the new Uppsala models (Plez et al., 1992; Plez et al., 1993) give us not only an indication on the still remaining ISO-SWS calibration problems, but also on the shortcomings of the synthetic spectra. Constructing a stellar model and generating a synthetic spectrum require a detailed knowledge of the stellar atmosphere, but an accurate physical description of the atmosphere of cool giants is still lacking. We hope that our results will not only contribute to a better convergence between the ISO-SWS data and the generated synthetic spectra, but also to a better understanding of the atmospheres of cool giants.

References

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