ISOPHOT S Spectra and the Temperature Distributions in M Dwarfs

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Abstract

Outline: ISPHOT S observations of the M dwarfs Gliese 1, 832 and 887 have been obtained. In conjunction with ground based data the spectra are used to derive empirically the temperature distributions in the outer layers of these stars. This is made possible by the strong variation of the opacity in the IR which implies that the ISO fluxes probe a wide depth range. Due to the extension of the convective zone from the stellar center to very shallow layers and due to the possible existence of strong chromospheres (even when H alpha is not seen to be in emission) a fully theoretical modelling of the temperature stratifications is not yet possible but is of particular interest for our understanding of these stars, our by far most numerous neighbors.