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Clean And Clear – A New Sample Of Brown Dwarfs In Upper Scorpius.

Results from near infrared spectroscopic examination of brown dwarfs in Upper Scorpius have produced a sample of brown dwarf spectra that are clear of contributions from reddening or disc emission. The same spectra have also confirmed the efficacy of the Galactic Cluster Survey component of UKIDSS as a tool for identifying clean samples of large numbers of young brown dwarfs. This talk focusses on the meaning of these results for the low mass end of the IMF in Upper Scorpius and the analysis of brown dwarf photospheres. The Upper Scorpius OB association is the oldest nearby star forming region with a substantial number of brown dwarfs and it has a low brown dwarf disc fraction (0.23). The talk shows how this is enabling the assembly of an accurate near infrared spectral profile of brown dwarf photospheres from type M6 to L1. I will also discuss how the presence of discs around young brown dwarfs affects their near infrared spectra and show how it complicates the determination of their spectral type.

Based on Dawson et al (2011, 2013) and Dawson et al (2013 - submitted)