ID 254

Tipo de Comunicación: Poster

Sesión Científica: La via lactea y sus componentes

Titulo: A new near infrared classification of pre main sequence stars

Nombre (Autor que presenta): Miguel

Apellidos (Autor que presenta): Alonso Martínez

Apellidos y nombre de los autores: Alonso-Martínez, M.; Meeus, G.; Montesinos, B.; Eiroa, C.

Resumen:

We obtained mid-resolution \emph{JK} spectra with WHT/LIRIS and NOT/NOTCam of $\sim$110 T Tauri stars (SpT$\sim$K to M) in the Taurus region. Here we present equivalent width line measurements of common and strong spectral features. The spectra show lines that depend on the temperature (and gravity). Various methods of spectral classification already exist in the literature, but we now aim at providing a direct and fast method to derive effective temperatures for our sample stars. To overcome the effects of veiling, line ratios of strong absorption features relatively close in wavelength are used. NaI(2.208$\rm \mu m$)/MgI(2.281 $\rm \mu m$) and CaI(2.265$\rm \mu m$)/MgI(2.281$\rm \mu m$) line ratios follow a tight relation as function of effective temperature. These particular line ratios are good proxies for stars cooler than 5000 K, as seen in a test with standard stars. Because dwarfs and giants can show different behaviors with temperature, clearly associated with their gravity ($\log g = 3\text{–}5$ compared to $\log g = 0\text{–}3$) , we need a proxy to discern between the two. The AlI(1.313$\rm \mu m$) line helps to overcome this issue, as it is strongly gravity-dependent. Finally, we estimate accretion rates using the H-lines Paschen β and Brγ.