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Sesión Científica: La via lactea y sus componentes

Título: Cepheids: Determination of atmospheric parameters as a function of phase with iSpec

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Resumen:

Classical Cepheids are radially pulsating stars where the spectral type varies depending on their phase (F-type at maximum, G-K type at minimum). Several studies used the equivalent width method to determine the evolution of effective temperature, surface gravity and metallicity for classical cepheids with different pulsation periods (Luck and Andrievsky 2004; Kovtyukh et al. 2005; Andrievsky et al 2005; Luck et al 2008; Takeda et al. 2013). We evaluated iSpec (Blanco-Cuaresma et al. 2014), which has been extensively used with non-pulsating FGK stars, to derive atmospheric parameters as a function of phase for classical Cepheids. This tool allows us to completely automatise the analysis process and test different atmospheric models, atomic line list, radiative transfer codes and spectroscopic methods, such as the classical equivalent width method or the synthetic spectral fitting technique.