

The molecular cloud and embedded young stellar population associated with IRAS 18236–1205

Ricardo Retes, Abraham Luna, Divakara Mayya and Luis Carrasco

Instituto Nacional de Astrofísica, Óptica y Electrónica (INAOE), Mexico

Abstract. We test a membership method to select embedded young stellar objects (YSOs) from a Galactic molecular cloud with ongoing massive star formation using multiband analysis. We select and discuss the embedded stellar population in the molecular cloud associated with IRAS 18235–1205, a small, geometrically well-defined Galactic molecular cloud. The IRAS source has infrared fluxes characteristic of an UCHII region, CS($J = 2 - 1$) emission, and methanol and water maser emission, suggesting that this region is a good candidate for studies of young, massive star formation. The selection method of embedded stellar populations is based on the spatial distribution of $^{13}\text{CO}(J = 1 - 0)$ and *Spitzer*/MIPS 24 μm point sources. Photometric analysis using near/mid-infrared images are used to test our selection criteria. Three objects are associated with the IRAS source; two have a characteristic spectral-energy distribution (SED) of a Class I/0 object (protostar) and the third has an SED of Class II.

Keywords. ISM: molecular clouds, stars: formation, stars: pre-main-sequence, infrared: stars

The full poster (in pdf format) is available at
<http://www.astro.iag.usp.br/~iaus266/Posters/pRetes.pdf>.