Poster: Multiwavelength Study Towards the EGO G12.42+0.50

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Extended Green Objects (EGOs) provide a promising tool towards understanding the early evolutionary phases of high mass stars. These sources that show enhanced emission in the 4.5 m Spitzer IRAC band, are believed to be driven by outflows from massive YSOs, in which case the spectral carriers would be atomic and molecular shock indicators like H2 and Fe II lines and broad CO(=1-0) bandheads. We present the multiwavelength study of the EGO, G12.42+0.50, with dedicated spectroscopic studies at near infrared, using the spectra obtained from UKIRT-UIST. The associated ionised, cold dust and molecular components of this source are studied in detail employing various observations at near-, mid-, far-infrared, submillimeter and radio wavelengths. The radio continuum emission mapped at 610 MHz and 1390 MHz using GMRT, India, estimates that this region is ionised by an early-B type star(s). The Herschel far-infrared data are used to probe the nature of the cold dust emissions by constructing the temperature and column density maps. The EGO is located within a clump identified from the ATLASGAL 870 m map. The mass and linear radius of the clump was estimated and the values obtained identifies this clumps as a potential site for high-mass star formation. The molecular line emission from the MALT90 survey reveals signatures of infall activity towards this region.

Cores and embedded objects