

Resolving radio components of massive protostellar jets with the MeerKAT

Abstract

Jets of massive protostellar jets are indirect indicators of disc-fed accretion and are likely to be responsible for removing angular momentum from their host protostars during collapse. High resolution observations of the jets show that a majority of the objects have thermal cores and non-thermal lobes, with a small fraction manifesting thermal lobes. However, most observations of the objects have lower resolutions and cannot resolve their components to reveal finer details of their morphologies. Thus, we are proposing to observe ten massive protostars with extended structures, previously observed with the Australian Telescope Compact Array (ATCA), at MeerKAT's S-band where their thermal and non-thermal components may be resolved. This will allow us to study the nature of the components as well as the morphologies of the jets. Besides we will estimate their fluxes, magnetic properties and the nature of their emission using the well known techniques; fitting of Gaussian functions, minimum energy requirements and spectral indexing respectively.