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Radio properties of extended structures of jets of massive protostars

Abstract

Massive protostars are known to drive highly collimated jets whose radio emission can tell the magnetic properties of the jets, and by extension the accretion mechanisms of the driving protostars. High resolution observations of the jets show that they have thermal cores and non-thermal lobes. However, lower resolution observations of the objects, e.g., the MeerKAT L-band observation, reveal extended structure whose overall nature depict non-thermal property. We are therefore proposing to observe seven massive protostars with extended structures, previously observed using the MeerKAT at 1.28 GHz, at U-band, to study their morphologies. 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.