

The study of extended radio galaxies in MERGHERS fields

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Radio galaxies play an important role in the formation of structure in the Universe. Studying the physical properties of both classical radio galaxies (FRI and FRII), as well as their more morphologically complex counterparts (NATs, WATs, BTs, X-shaped, etc), can help in understanding their specific role and how their local environment affects their properties, and vice versa. The MERGHERS survey is carrying out targeted observations of galaxy clusters using MeerKAT's L- and/or UHF bands. The wide-field images contain many instances of extended radio galaxies, across all morphologies. This project aims to catalogue and study the extended radio galaxies in the 21 cluster fields from the first tier of MERGHERS data, investigating their environmental link and studying their spectral properties.

AIMS & OBJECTIVES:

This project aims to use the first tier MERGHERS data, in conjunction with available multiwavelength data, to catalogue and study the extended radio galaxies in the cluster fields. The project will:

- investigate the statistics of the radio galaxies and their relationship to their environment (field versus cluster),
- study the spectral properties of the sources by producing in-band spectral index maps, or other frequency data where available, and
- investigate the environmental impact on sources with non-classical morphologies.

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