

The ViCTORIA project: a multi-frequency radio survey of the Virgo galaxy cluster

Tuesday, 7 May 2024 13:30 (15 minutes)

The ViCTORIA (Virgo Cluster multi-Telescope Observations in Radio of Interacting galaxies and AGN) project includes three large radio surveys made with LOFAR LBA, LOFAR HBA and MeerKAT. The surveys' footprint extends over the virial radius of the Virgo cluster and covers the most relevant sub-clusters. This project will deliver: images at GHz frequencies of our closest rich galaxy cluster 60 times deeper than existing data, in full polarisation, and including a blind HI survey that aims at mapping seven times more galaxies than previous experiments and without selection biases. The main scientific goal is to use Virgo as a test bed for galaxy evolution and AGN-ambient interaction.

In this talk, I will present the release of the LOFAR HBA data and will show preliminary results from LOFAR LBA and MeerKAT data. Then, I will discuss the radio emission coming from AGN that are part of the cluster, discussing possible scaling relations and their link to the cluster environment. Specifically, I will show the newly discovered emission from two faint and very steep spectrum radio galaxies (M49 and NGC4365). Finally, we will present the analysis of the radio lobes structures in the central radio galaxy M87 at the highest resolution to date.

keywords

radio surveys, galaxy clusters, AGN

In-person or online?

in-person

Career level

Mid-Senior

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