

The Third National Workshop on the SKA Project - The Italian Route to the SKAO Revolution



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LeMMINGS: the eMERLIN radio legacy survey of nearby galaxies

Thursday, 7 October 2021 09:30 (20 minutes)

I will present the high-resolution 1.5-GHz radio observations of 280 nearby galaxies with the eMERLIN array, part of the LeMMINGS survey. The sample consists of active and non-active galaxies, taken from the Palomar sample. The radio images reveal a broad variety of morphologies: one/two-sided jets, double-lobed jets, complex structures and star formation regions on a typical scale of ~ 100 pc, down to a radio luminosity of $\sim 10^{19}$ W/Hz. The most important result is the detection of pc-scale jetted structures associated with black hole masses down to 10^6 solar mass. By dividing the sample into optical classes, LINERs show more core-brightened radio morphologies and appear to be the scaled-down version of FRI radio galaxies; Seyferts show less collimated jets than LINERs; HII galaxies and Absorption-line galaxies are a mixed population of weakly active and silent black holes. In addition, by including new Chandra X-ray data, I will explore their disc-jet connection and the origin of their nuclear emission in low-luminosity AGN and inactive galaxies.

Research area

Extragalactic Continuum (galaxies/AGN, galaxy clusters)

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