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The many ages of AGN

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The nuclei of galaxies show episodes of activity and of quiescence. Through feedback mechanisms, such episodes have significant effects on their surroundings. Radio observations can be excellent probes of such episodes, measuring time-integrated influence of the AGN jet activity. Sensitive radio observations can record faint emission associated with the previous epochs of activity, and it is expected that new telescopes like MeerKAT, ASKAP and LOFAR will reveal whole populations of such sources. In this talk, I'll present an analysis of observations of a giant radio galaxy, carried out with MeerKAT, which shows three such epochs of activity. The observations are at the L-band and the new UHF-band, which allows for accurate estimates of spectral ages for each of the epochs as well as those of the ambient magnetic fields. Using these observations, I'll discuss what we should expect from new broad-band, deep surveys of the radio AGNs.

Abstract field

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