

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



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## The GRACE project: giant radio galaxies and their duty cycle

*Thursday, 7 October 2021 17:00 (20 minutes)*

Giant radio galaxies (GRG) are one of the most spectacular manifestation of astrophysical jets, showing plasma ejecta with an extension up to Mpc. However, the conditions allowing such a growth are still unclear, and may be linked to a particularly favourable environment, to peculiar accretion/ejection conditions allowing a very long and continuous radio activity, or to more than one radio cycle. The aim of the GRACE project is to study the radio duty cycle in a sample of giant radio galaxies selected from high energies (hard X-rays) catalogues produced by the INTEGRAL/IBIS and Swift/BAT space missions. This sample presents a high fraction of restarted GRG, either in the form of a young radio source in their core, or from their morphology. We will present the results of an extensive campaign from the X-ray to radio band, including the latest data from the LOFAR Two-metre Sky Survey (LoTSS).

### Research area

Extragalactic Continuum (galaxies/AGN, galaxy clusters)

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