

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



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Exploring the population of Radio-Loud AGNs at high redshift with the RACS survey

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We present the first results of a recently started project focused on radio-loud (RL) Active Galactic Nuclei (AGNs) at high redshift which exploits the new Rapid ASKAP Continuum Survey (RACS). Thanks to its unprecedented combination of area and sensitivity, this survey is the perfect starting point to push the study of RL AGNs at the highest redshift currently explored ($z > 6$), allowing for the discovery of statistically significant samples. Soon after the first data release of the RACS we uncovered the second most distant RL AGN currently known ($z = 6.44$). From a first radio follow-up of the source we found that the source has a peaked radio spectrum, with the peak around 5 GHz, suggesting that we are observing a newly born jet (~ 100 yrs) in the early Universe. Moreover, we also present the discovery of two new very promising $z > 6$ RL AGNs discovered as part of a systematic search for new high- z RL objects from the combination of the RACS survey with wide-area optical surveys currently available.

Research area

Extragalactic Continuum (galaxies/AGN, galaxy clusters)

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Session Classification: Galaxy Evolution and AGN