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## New Galactic Plane Surveys with SKA precursors: the SRAO GPS with MeerKAT and the SNR use case

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Deep radio continuum surveys are an essential tool for the study of the different populations of Galactic radio-emitting objects. So far, however, statistical studies of these families are severely affected by selection effects due to the limited capabilities of existing surveys, which undermine the detection of the shallowest and most extended sources. This observational bias results in an underestimation of the studied populations with respect to the theoretical predictions.

In this context, ASKAP and MeerKAT, thanks to their high sensitivity, resolution and uv-coverage, come to fill this gap.

In this talk we will present the MeerKAT Galactic Plane Survey (MGPS), that surveyed, with a mosaic pointing scheme that achieves 1 hour integration time per pointing, a strip of the Southern Galactic Plane (4th quadrant, and also portions of the 3rd and 1st:  $248^\circ < l < 61^\circ$ ,  $|b| < 1.5^\circ$ ).

We will present the project and its status, while showing some highlights from the survey to illustrate the data quality, scientific results and the different source populations discovered in MGPS, will be also presented.

Moreover, in this talk, we will focus on the study of Galactic SNRs, presenting the results obtained with data from the MeerKAT SRAO Galactic Plane Survey and the ASKAP Evolutionary Map of the Universe. We will present new SNRs from the ASKAP Pilot2, highlighting the potential of SKA precursors for the discovery of candidate objects and show some interesting cases found in a sample of 28 known SNRs, for which we could produce integrated and spatially resolved spectra combining SGPS and MWA data, providing deeper insights into their morphology and physics.

### Research area

Our Galaxy

**Primary authors:** BUFANO, Filomena (Istituto Nazionale di Astrofisica (INAF)); CAVALLARO, Francesco (Istituto Nazionale di Astrofisica (INAF)); UMANA, Grazia Maria Gloria (Istituto Nazionale di Astrofisica (INAF))

**Presenters:** BUFANO, Filomena (Istituto Nazionale di Astrofisica (INAF)); CAVALLARO, Francesco (Istituto Nazionale di Astrofisica (INAF))

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