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## Tracing the origin of radio emission in galaxies with MIGHTEE

Pinpointing the true source of radio emission in galaxies is a rather complex task that requires detailed modelling of radio spectral energy distributions. With the recent availability of catalogues of radio sources detected with interferometers such as MeerKAT, uGMRT, and LOFAR, we are able to push down the detectable flux range to the point where we can detect the faintest radio emission in galaxies. At this faint flux end, it is generally unclear which specific mechanisms produce radio emission. In this foundational study, we begin to tackle this quandary by obtaining constraints on spectral curvature using four-band radio detections spanning observed frequencies of 100 MHz - 2 GHz for radio-loud AGN. Considering the Eddington and Malmquist biases which skew our results at low and high radio fluxes, respectively, we find a dominance of steep spectrum sources among the radio-loud active galactic nuclei (AGN) population indicative of synchrotron processes originating from the jets and lobes. For non radio-loud AGN (assumed to be normal star-forming galaxies and radio-faint AGN), we see a predominance of flat spectra associated with thermal processes occurring in HII regions.

### Apply for student award at which level:

None

### Consent on use of personal information: Abstract Submission

Yes, I ACCEPT

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