

Deeper follow-up of a serendipitous discovery of 40+ group galaxies

Abstract

Galaxy groups are important structures to study, as they provide a view into the baryon cycle and star formation, key aspects of galaxy evolution studies. Neutral hydrogen (HI) emission traces galaxy interactions and hence informs us on the recent history of galaxies within groups. We request 17.1 hours of MeerKAT time to obtain deeper observations of a serendipitous discovery of galaxy groups in HI emission from previous MeerKAT Open Time, numbering over 40 individual galaxies in total. All galaxies fall conveniently in a single pointing and a 32K-narrow correlator mode set-up. Thus deeper imaging with MeerKAT is the optimal way to detect dwarf galaxies and diffuse HI to confirm interactions between group members. The improved spectral resolution will enhance asymmetry studies of the HI global spectra and intensity maps, and enable further dynamical studies.