

# MeerChoirs: Effects of Group Environment on Galaxy Evolution

## Abstract

Galaxy groups are important structures in the hierarchical structure of the Universe, as they lie between the low-density environments of the field and high-density clusters. They provide a window into how galaxy interactions and increasing density affect galaxies, as galaxies transition from blue, star forming types to massive, quenched galaxies. HI is a useful tool for studying group environments because it is the fuel for star formation and it can trace the tidal interactions between group members. MeerKAT's combination of high sensitivity, spatial resolution and large field of view enables the simultaneous study of large areas, detailed studies of galaxies within groups and the faint signatures of their interactions. We therefore propose 50 hours of MeerKAT HI, observation to perform the deepest and highest resolution study of the neutral gas in 8 nearby, carefully selected groups, their constituent galaxies and the role that group environments play on the evolution of galaxies.