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Presentation Requested: oral

Category: Assembly of Galaxies / Mass & Structure Evolution

Question: Other

ALMA/MeerKAT Synergy in Studies of Galaxy Evolution

With its broad frequency coverage and extraordinary line and continuum sensitivity, ALMA is a superb instrument for studying the evolution of galaxies' cold, molecular gas reservoirs over cosmic time. Only a few years from now, ALMA will be powerfully complemented in this regard by South Africa's MeerKAT precursor for the Square Kilometre Array (SKA), which will explore new parameter space in the study of galaxies' neutral atomic gas. I will describe MeerKAT and those of its approved large surveys that will shed light on galaxy evolution, including deep continuum and HI absorption-line studies as well as detailed studies of HI in nearby galaxies. I will place particular emphasis on the LADUMA (Looking At the Distant Universe with the MeerKAT Array) survey, whose 5000 hours of observations of a single field will probe HI in emission to $z \sim 1.4$. Focused ALMA followup of select sets of MeerKAT sources, including both HI detections and the OH megamasers that mimic them, will be an important means of knitting together a complete picture of galaxies' evolving, multiphase interstellar media and their overall growth in mass over the last several Gyr.