

Abstract Submitted
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LADUMA: Looking At the Distance Universe with the MeerKAT Array ANDREW BAKER, Rutgers, The State University of NJ — The cosmic evolution of galaxies’ neutral atomic gas content is a major science driver for the Square Kilometre Array (SKA), as well as for its Australian (ASKAP) and South African (MeerKAT) precursors. Among the surveys of neutral atomic gas (HI) planned for ASKAP and MeerKAT, the deepest and narrowest tier of the “wedding cake” will be defined by the joint L/UHF-band Looking At the Distant Universe with the MeerKAT Array (LADUMA) survey, which will probe HI in emission within a single “cosmic vuvuzela” that extends to $z = 1.4$, when the universe was only a third of its present age. Through a combination of individual and stacked detections (the latter relying on extensive multiwavelength studies of the survey’s target field), LADUMA will study the redshift evolution of the baryonic Tully-Fisher relation and the cosmic HI density, the variation of the HI mass function with redshift and environment, and the connection between HI content and the properties of galaxies’ stars (mass, age, etc.). The survey will also build a sample of OH megamaser detections that can be used to trace the cosmic merger history. This talk will present the science potential of LADUMA and the technical planning underway for its kickoff in 2018.

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