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HI stacking predictions for upcoming surveys with SKA precursors

We present our Monte-Carlo simulation of galaxy properties: optical and HI. We use this simulation to study the expected number of direct detections in upcoming surveys (MIGHTEE with MeerKAT and WALLABY with ASKAP). We also study the expected detections in redshifted 21cm line emission with HI stacking. We propose that with these surveys HI stacking can be done in bins with a given range of optical luminosity and color, enabling studies of galaxy evolution in the upcoming surveys. We also discuss the sensitivity of these surveys towards the HI mass function and its evolution with redshift. The stacking of optically selected galaxies provides a statistical estimate of HI properties. We will also investigate the evolution of diverse scaling relations in both optical and HI.

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