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Abstract:

Understanding the cold gas content of galaxies is crucial to untangling the processes which quench star formation. We propose to complete the census of HI content of a sample of galaxies selected to have both resolved optical spectroscopy from the MaNGA survey, and ALMACO observations (dubbed “ALMaQUEST”). We have observed these galaxies in a previous FAST run, however, 22 of the observed galaxy spectra were corrupted by the compressor RFIs. The compressor problem has been solved since August 2021 and the new data after that is free from these RFIs. We, therefore, propose to re-observe these 22 galaxies using FAST. We aim to measure the HI masses down to a much deeper sensitivity ($\sim 1\%$ of the stellar mass) and thus help reveal the balance between HI, H₂, and the star formation properties of the galaxies.