

FAST Proposal Coveragepage

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Project Name:

H I Profiles as a Tool to Probe the Evolutionary Stages of Galaxy Mergers

Project Summary:

Galaxy merging is one of the most important processes for galaxy formation and evolution. It affects the morphology of the gas and stars of galaxies. The asymmetry of the H I profile, a useful parameter for indicating galaxy interactions, will be enhanced in merging galaxies compared to normal galaxies. We propose to observe the H I line of 82 galaxies from the GOALS sample, which covers a wide range of evolutionary stages along the merger sequence, to study systematically their H I asymmetries. This project gives as a $z \sim 0$ baseline to investigate the correlation between H I asymmetry and galaxy mergers, serving as a foundation for the interpretation of future extragalactic blind surveys using FAST.