

FAST Proposal Coverpage

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Project Name:

HI Imaging of the Lockman Hole with FAST

Project Summary:

The Lockman Hole is a region of the sky with the lowest abundance of neutral atomic Hydrogen (HI). This is one of the most heavily studied regions of the sky because it is used as an “empty” line of sight to both calibrate many different types of observations in many fields of astronomy, and is used as a window to study extragalactic sources at frequencies where HI and dust may obscure the background (such as in X-ray and IR frequencies). We propose to map the region with FAST offering a significant improvement over the current GBT map. This map will be widely used by many fields in astronomy as well as help us to further develop FAST’s HI imaging capabilities including the development of an HI imaging pipeline and stray radiation model for FAST. We consider this to be a low-risk project because it utilizes standard observational techniques, with a high probability of a significant publication.