

Proposal Abstract:

Measuring pulsar distances is difficult but useful for studying pulsar luminosity and the interstellar medium. The distance of most radio pulsars are estimated by its dispersion measure (DM) based on the model of Galactic electron density distribution. However, the accuracy of the DM-estimated distance depends on the knowledge of the electron distribution which is not well-understood. Measuring distances of pulsars is therefore fundamental for the construction of the Galactic electron density distribution. Benefited from the highest sensitivity of the FAST, we propose to measure the HI absorption spectra of 16 pulsars, and then constrain their kinematic distances. Several pulsars can probe unexplored areas in the Galactic disk. Others can help to modify the model of Galactic electron density distribution.