

PID:PT2022_0194

Abstract:

The Southern-sky MWA Rapid Two-meter (SMART) pulsar survey is an ongoing low-frequency pulsar survey in the 140-170 MHz band of the Murchison Widefield Array (MWA), the official precursor for the SKA-Low. Data collection of the SMART survey is currently 75% complete, and from the initial 3% of the data processed as part of the current “shallow-pass” survey, three new pulsars have been discovered. In the past few months, significant progress has been made in the data processing and search workflow of the SMART data including procedures for candidate scrutiny. We therefore expect more discoveries to emerge in the coming year even within the commonly shared sky of FAST and MWA. We propose to carry out FAST follow-up observations of these new discoveries to characterize their pulse profiles, spectra and other emission and scintillation properties, for which the sensitivity and large bandwidth provided by the FAST can be extremely advantageous. This project will also help further foster the collaborative ties with MWA collaboration and to further strengthen the linkage between FAST and the SKA-low.