

Project name : The Galactic Plane Pulsar Snapshot (GPPS) survey

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The Five-hundred-meter Aperture Spherical radio Telescope (FAST) with the L-band 19-beam receiver with a system temperature of about 20~K is the most sensitive radio telescope to discover pulsars. We designed the snapshot observation mode for a FAST key science project, the Galactic Plane Pulsar Snapshot (GPPS) survey, in which every four nearby pointings can observe a cover of a sky area of 0.1575 square degree through beam-switching of the L-band 19-beam receiver. The integration time for each pointing is 300 seconds so that the GPPS observations for a cover can be made in 21 minutes. The goal of the GPPS survey is to discover 1000 pulsars down to a sensitivity of a few microJy level in the Galactic disk (both inner and outer disk) within the Galactic latitude of $\pm 10^\circ$ from the Galactic plane, and the highest priority is given to the inner Galaxy within $\pm 5^\circ$. The most important goal is to find exotic pulsars, especially pulsars with a very short spin period or a short orbit period or with a large mass or pulsars in neutron-star black-hole binary.