FAST Proposal Coverpage

Last updated: 02/23/2019

Project Name:

(A 1-line title for your project)

FAST Galactic Plane Pulsar Shooting (FAST-GPPS) Program

Project Summary:

(A 1 paragraph summary of your project, including its scientific goals and how you will address them. This information will be potentially public.)

The high sensitivity and 19-beam receiver make the FAST to be the most powerful tool currently for pulsar survey. We propose the FAST Galactic Plane Pulsar Shooting (FAST-GPPS) program by using a new snapshot observation mode with the 5 minutes integration time each pointing for the inner disk and 3 minutes for the outer disk of the Milky Way, so that we can shoot with a survey velocity of 2.54 hours per square degree. The FAST-GPPS project plans to survey the whole FAST-visible Galactic plane in one year. It has been estimated that the survey would detect thousands of pulsars and hundreds of millisecond pulsars in the Milky Way Galaxy. During the shared-risk commission phase, we apply a pilot survey covering the region of about 10 square degrees, testing the snapshot observation mode, establishing the pipeline of pulsar search. Here we apply for 24 hours for the pilot survey, and expect to find dozens of pulsars and publish a paper.