

**Proposal Abstract:**

This proposal continues the proposal (PT2023\_0035) ranked A in the last round. We request 42 hours' FAST observations for two pulsars: PSR J1946+2052 and PSR B1913+16. PSR J1946+2052 is the most compact known double neutron star system. In previous observations, we find significant profile evolution and polarization for the first time. The previous observations enable us to model the relativistic spin precession of the pulsar. The work is published by APJ. We simulate and predict that a few more years of profile observations and precision pulsar timing will enable a stringent test of general relativity. For PSR B1913+16, our observation reveals unprecedentedly well-measured pulsar polarization profiles that could enable the detection of the orbital aberration effect and the test of general relativity. In the meantime, the combination of time of arrivals (TOAs) from FAST and Arecibo has already improved the measurements of post-Keplerian parameters by a factor of 2. In this round of FAST proposal, we aim to improve the orbital coverage and reduce the jitter noise of FAST TOAs in PSR B1913+16.