

Proposal Abstract:

We recently discover two new pulsars J1849+1001 (35.1 ms) and J1839+0543 (57.9 ms) in a FAST pulsar survey at intermediate Galactic latitudes (PT2020_0141). Follow-up timing observations show that they are in circular orbits with massive companions. This suggests that both PSRs J1849+1001 and J1839+0543 can be classified as an intermediate-mass binary pulsar (IMBP). Their massive companions also make them promising systems to measure “Post-Keplerian” parameters through pulsar timing. These FAST observations will be combined with regular timing observations with Parkes to measure “Post-Keplerian” parameters and then measure both neutron star and companion masses.