

Proposal Abstract:

Pulse nulling is a phenomenon where pulsars temporarily halt their emission for one or more consecutive rotations. In general, the theoretical interpretation of pulsar nulling is due to the inadequate electric potential in the gap of old pulsar or that a gap is flooded by a pair of plasma produced and injected from elsewhere in the magnetosphere, but it is inconclusive. We have discovered 20 extremely nulling pulsars in the Galactic Plane Pulsar Snapshot (GPPS) survey with the FAST. However, we have not yet determined their timing solutions due to limited observations and detected only several single pulses. To address this issue, we propose conducting extended monitoring observations using FAST, obtaining the timing solutions for these very nulling pulsars, and determining if they are old pulsars or not.