

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 16 new weak extremely nulling pulsars in the Galactic Plane Pulsar Snapshot (GPPS) survey conducted by the FAST. However, we have not yet determined their timing solutions due to limited observations and detected single pulses. To address this issue, we propose conducting extended and densely tracked observations using FAST to gather more data, obtaining the timing solutions for these sources, and determine if they are old pulsars or not.