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Abstract:

Pulsar timing can be used to determine basic parameters of pulsars, study pulsar interior equation of state, test the theories of gravity, etc. The Galactic Plane Pulsar Snapshot (GPPS) survey has discovered 408 new pulsars using FAST. We propose to use FAST to conduct timing observations to 18 pulsars with periods between 30 and 100 milliseconds newly discovered in the GPPS survey to obtain their accurate period, period derivative and position. After obtaining the period derivative, it can be determined whether these pulsars are young or old. According the characteristic age and whether the spin period shows the periodic Doppler shift, we will identify and study young pulsars, binary pulsars and disrupted recycled pulsars.