

**Proposal Abstract:**

Mode changing is the phenomenon wherein the pulse profile switches between two or more stable emission modes, which is important for understanding the pulsar radiation mechanism. To better understand this phenomenon, highly sensitive polarization observations are essential, as they provide insights into the physical origin of mode changing. In this proposal, we aim to observe some mode changing pulsars using FAST. The highly sensitive observations will allow us to obtain the polarization profiles of different modes for them. We will measure the magnetosphere geometry and emission height of different modes, and then divide them into different groups by analyzing their polarization properties. The emission variations during the mode-transition will be analyzed, which is important for understanding the triggering mechanism of mode changing. We will also examine the achievable timing precision by using a subset of pulses with a specific mode and expect to improve the timing precision.