Proposal Abstract:

PSR J2006-0807 has nulling, subpulse drifting and mode changing, and it exhibits is an extremely rare bi-drifting. This provides us with a natural sample for studying the radiation characteristic of pulsars.In this pulsar, a wide variety of single-pulse behaviors can be observed,frequently switching from one emission mode to another. The unique feature of the pulsar is that the pulse profile has five components, and we can also analyze their radiation geometry and the radiation and drift of the core and cone components.So we propose observation with the Five-hundred-meter Aperture Spherical radio Telescope (FAST).We can use the polarization data to fit the radiation geometry of Pulsar J2006-0807, which is missing from previous studies of this pulsar.In previous studies, Basu et al. mentioned that due to low observational sensitivity and short duration, they could only conduct polarization research on two of the four emission modes with sufficient sensitivity. Additionally, they identified the emission modes of pulsars visually, and there existed overlapping boundaries among these modes.Our sensitive long-duration single-pulse observations will enable further refinement and improvement of the modes.So we propose observation with the FAST.Our sensitive single-pulse observation with long duration will improve the understanding of the pulsar radio emission characteristic.