Proposal Abstract:

Milliseconds pulsars (MSPs) are ideal tools for searching for gravitational waves due to their excellent rotational stability. Polarization observations is the key to understand the properties of MSPs. With high sensitivity, FAST is the best tool to study the polarization profiles of MSPs. In this proposal, we propose to observe the newly discovered MSPs by FAST-CRAFTS. Our observations will provide high quality polarization profiles of these new MSPs. We will analyze the individual profile components and how they evolve with frequency. It is expect that previously undetected profile features could be identified. The polarization properties of MSPs are compared with those of normal pulsars to reveal whether the basic radio emission mechanism of the two classes of pulsars is the same. We will also study the stability of the pulse profiles as a function of time, which is relevant for high-precision pulsar timing experiments.