Proposal Abstract:

Eclipsing millisecond pulsars (MSPs) in tight orbits (orbital period, Pb < ~1 day), the so-called spiders, is an important class of radio binary pulsar. Their semi- or non-degenerate companions are subjected to severe irradiation-induced mass loss. In the FAST GPPS survey, 17 spider pulsar candidates have been identified, among which several interesting exceptions to the typical scenario have been discovered. The most interesting one is PSR J1928+1816g, the companion of which probably is a helium star. However, only two of them have a phase-connected timing solution, and even worse, the orbital parameters of many candidate spiders are poorly determined due to the lack of observations. Our primary goal is to obtain a precise orbital parameters for these systems, then a phase-connected timing solution can be obtained.