

Proposal Abstract:

Pulsar-massive star binaries are considered to be an intermediate stage in the evolution of two high-mass star binaries. Of about 3500 pulsars currently known, only 300 are in binary, and only six of these consist of young pulsars with massive nondegenerate companions. We plan to observe two such systems in FAST sky to search for the orbital phase-dependent dispersion, scattering, and eclipses of the pulsar to study the pulsar's wind and magnetic field. With the high sensitivity of FAST, we can obtain precise timing results, and can also study their polarization properties and nulling phenomena. We hope to apply for 16.4 hours for this project.