

Proposal Abstract:

This project aims to conduct timing observations on five pulsars identified by FAST, comprising two millisecond pulsars, one in a binary system, and six normal pulsars. The objective is to execute timing observations over a year to acquire high-precision timing solutions. This endeavor will enable the measurement of pulsar parameters and binary system characteristics, as well as assess the viability of long-term timing. For the MSP within the binary system, our observations aim to elucidate the complex relationship between the pulsar and its companion, shedding light on relativistic effects and offering valuable insights into pulsar evolution and binary interactions. Through these timing observations, we intend to enhance our understanding of pulsar physics, gravitational theories in strong-field regimes, and the dynamics of pulsar binaries. Additionally, our research aims to contribute to the comprehensive characterization of the pulsar population, thereby facilitating the development of pulsar timing arrays and their applications in gravitational wave detection.