

Proposal Abstract:

This study aims to probe the magnetic field at the eclipse boundaries of the spider pulsar J1908+2105. PSR J1908+2105 is a millisecond pulsar that occupies a region of parameter space between black widows and redbacks. We plan to use the FAST telescope to observe the eclipse ingress and egress of PSR J1908+2105 and measure the rotation measure (RM) variations. The polarization depolarization during the eclipse phases indicates the presence of a magnetic field in the eclipse medium. By measuring the variations in dispersion measure (DM) and RM at the eclipse boundaries, we can estimate the average magnetic field parallel to the line-of-sight direction. Our observations will provide insights into the magnetic field properties and the binary evolutionary processes in spider pulsar systems.