Proposal Abstract:

In this proposal, we aim to use the high-quality polarization observation capabilities of FAST to study radio-loud gamma-ray pulsars. Radio-loud gamma-ray pulsars offer a unique opportunity to investigate pulsar geometry at two different wavelengths simultaneously. However, accurate measurements of pulsar geometry at radio wavelengths rely on high-quality polarization profiles. By observing radio-loud gamma-ray pulsars with FAST, we will significantly improve the number of pulsars with known polarization properties. This will enable us to measure the origins of radio emission in these pulsars using Rotating Vector Model (RVM) fitting techniques. Additionally, by combining the data obtained from FAST observations with archival data from the Fermi satellite, we can constrain the origins of gamma-ray emission in these pulsars. Our study will provide valuable insights into the emission regions of pulsars, shedding light on the physical mechanisms responsible for both radio and gamma-ray emission.