Proposal Abstract:

We propose to conduct a preliminary search for pulsars in the M92 stellar stream within an sky region of 2.2 square degrees. The region of the M92 stream is well confined with the recent Gaia DR2 and EDR3 catalog (Ibata et al. 2021). Similar to other stellar streams, the composition stars of the M92 stream were stripped from the globular cluster halo by the tidal forces of the galaxy. They undergo strong interactions with the galactic plane as the GC passes through it. M92 is thought to have lost 10% of its stellar mass to its stream over the last few passes (Thomas et al., 2020). Therefore, we may expect a reasonable pulsar population in the GC-associated stream. Due to their strong interactions with the Galactic plane, there is a possibility of the formation of intriguing binary systems. We utilized the PsrPopPy simulation to estimate the detection rate of foreground galactic field pulsars. Through 500 simulated surveys of our designated sky region, we detected a foreground pulsar only 15 times, with no detections in the remaining 485 simulations. Therefore, if new pulsars are discovered in our target region, there is only 3% chance that they are foreground galactic field pulsars.