NO: PT2024_0144

Proposal Abstract:

322 pulsars were discovered in the 41 globular clusters before May 11, 2024. Among them, more than 50 pulsars were detected by the Five-hundred-meter Aperture Spherical radio Telescope. The advantage of higher sensitivity of FAST telescope would increase the number of GC pulsars. GLIMPSE-C01 is an interesting globular cluster with a distance 4.2 Kpc and a core radius of about 0.59 arcmin. Now, there are six new binary pulsars in GLIMPSE-C01, namely J1848-0129A to F. Based on all the FAST observation have data (only three times), J1848-0129A、J1848-0129B、J1848-0129D Figure (see 1). Among J1848-0129B is our new discovery by using our FAST observations of two hours last year. We obtained that these pulsars have high DM (about 480 cm^-3 pc). Fortunately, the detection rates of these three pulsars are 100% and these pulsars are all in binary systems. Due to the lack of data, we did not determine their orbital parameters except the spin period and DM. Therefore, it is very necessary to monitor the Globular Cluster GLIMPSE-C01 to determine their parameters using the highest sensitivity FAST telescope. It will not only reveal the properties of these new pulsars in binary systems, but also detect new more pulsars.