Proposal Abstract:

We propose using the FAST to conduct a timing campaigns for new pulsars J1641+3627H and J1641+3627I, and perform follow-up monitoring for 3 spider pulsars (NGC 6712A, M13E, and J1641+3627G) in NGC 6712 and M13. Our recently reprocessing the FAST archival observations of M13 yielded three new binaries, J1641+3627G, H, and I. The detection rate of these new pulsars is also almost affected by interstellar scintillation. The J1641+3627G should be a black widow in a 0.12 days orbit. We so far detected J1641+3627H only twice, and J1641+3627I seven times in all archival observations. More observations are crucial for allowing us to fully determine the orbital properties of J1641+3627H, I. There was also no polarization details of NGC 6712A and M13E reported near the eclipse in previous works. With the high sensitivity of the FAST, it is promising to capture the magnetic field environments of these two BWs near the eclipse. With this new observations, new pulsars are likely to be detected in M13, due to interstellar scintillation.