

Proposal Abstract:

Neutron star low-mass X-ray binary (NS LMXB) is composed of a neutron star and a low mass companion in main sequence. This project aims at observing NS LMXBs in the FAST field of view taking advantage of the high sensitivity of FAST. (Quasi-)Simultaneous X-ray observations will be carried out during FAST observing windows if feasible. We propose to perform FAST observations of 42 NS LMXBs, including two AMXPs, i.e., Aql X - 1 and IGR J00291+5934, which locate in the field of view of FAST, with each observation last 0.5 hr, when they transit from X-ray outbursts to the quiescent state. These observations will allow us to capture the transition from the accretion power to the MSP phase and understand the mechanism of transition.