Proposal Abstract:

Although the international team of pulsar researchers (CSIRO (Australia)-P863: Analysis of State Switching Pulsars) has conducted several months of observational study on PSR B1931+24, the limited sensitivity at the single pulse level of the source hindered the investigation of the emission characteristics of this pulsar. While the unprecedented sensitivity of the FAST enabled us to carry out the single pulse observation for PSR B1931+24. The observational programs targeted to intermittent pulsars by FAST in recent years have provided valuable information about the emission features of the pulsar magnetosphere. However, the limited observing data are not enough to unveil the mystery of the state-switching characters of intermittent pulsars. Comparing to other intermittent pulsars, PSR B1931+24 has a relatively short period of switching between its radio "loud" and "quite" states, i.e., 30 – 40 days, which would increase the possibility of capturing the transitional state between "on" and "off" states in a single observing project period, and we will gather relatively enough data on the "on" and "off" states for the single pulse research. These would provide the most valuable observational features of the pulsar emission mechanism and its magnetosphere dynamics.