

Proposal Abstract:

The redback pulsar J2215+5135 is a massive neutron star (2.17(16) Msun) with a main-sequence companion star (0.33(2) Msun) in a 4.14-hour orbit. In the FAST previous observations (2-h), we found that the pulse emission of the pulsar during the egress eclipse shows significant modulations and there is a series of bright emission clusters. The clusters become brighter, and the spacing between them decreases. In addition, there is also a significant difference in the duration of the eclipse (in % of the orbit) for the three pulse peaks. This is a very rare eclipse. We need 3-h observations to get the full eclipse information.