

PID:PT2022_0100

Abstract:

Observationally, there are two basic types of Fast Radio Bursts (FRBs): repeating and non-repeating ones. At present, one of key open questions is do all FRBs repeat. A large sample of FRBs released by the CHIME telescope recently seems to tell us the different morphologies between repeaters and non-repeaters: repeating FRBs tend to exhibit broader and more complex pulse profile, but more narrowband radio emission. Following the duration difference among these two types of FRBs, we may be able to find more repeaters from the known non-repeating sample. In this proposal, we select three apparent non-repeaters from the CHIME/FRB Catalog as the observing targets. The pulse widths of the selected FRBs are quite broad and fall into the repeater population. Specifically, we request 13-hour observing with the FAST 19-beam receiver to search for possible repeating events. If detections made, we can not only keep monitoring with FAST, but also propose VLBI observations to pinpoint the precise positions. Even non-detection can still provide hints on the fraction of active repeaters in the whole sample.