

Search for isolated, millisecond-scale radio bursts from known Galactic magnetars

Abstract

Magnetars are neutron stars with exceptionally strong magnetic fields and are currently a favorite explanation for repeating fast radio bursts. In particular, the detection of two, isolated, millisecond-scale radio bursts from the Galactic magnetar SGR 1935+2154 with energies comparable to FRBs provides the strongest connection to date. How often magnetars emit rare, isolated radio bursts is unclear, and in particular, whether such bursts can be detected from so-far radio quiet magnetars will be tested. In this proposal, we request a monthly monitoring campaign on the six known radio loud and 12 radio quiet Galactic magnetars visible to MeerKAT at L-band and S-band to search for ms-scale radio emission.