

Title

Investigating the Pulse Evolution of a New Ultra-Long Period Radio Transient

Abstract

We request regular monitoring observations for ASKAP J1832-0911, a 44-minute Ultra-long period object, with MeerKAT. We will use the high instantaneous sensitivity of MeerKAT to determine the periodicity of the emission for ASKAP J1832-0911 at both milliseconds- and seconds-long timescales, and the evolution of the pulse properties from seconds- to days-long timescales. The proposed observation will help us measure the physical parameters of the source such as surface magnetic field, spin-down luminosity, and characteristic age; map the geometry of the system to understand the emission mechanism for ultra-long period objects; and constrain the distance to the source to understand its surrounding environment.