

Technical Page

Proposal Type: Regular
 General Category: Pulsars
 Observation Category: Galactic
 Total Time Requested: 8 Hours
 Minimum Useful Time: 1 hr min, 1.5 hr preferred for G63.7

Proposal Title: Pulsation Searches Toward the X-ray-Selected Candidate Pulsars in the Supernova Remnants CTB 87 and G63.7+1.1

ABSTRACT:

We propose a targeted search for radio pulsations from two candidate young pulsars identified in X-ray observations of the filled-center supernova remnants (SNRs) CTB 87 and G63.7+1.1. Images of the SNR fields with the Chandra X-ray telescope have revealed unresolved sources with properties suggestive of rotation-powered pulsars with active magnetospheres that are powering these nebulae. The candidate pulsar in CTB 87 lies within faint extended X-ray emission features reminiscent of the torus and jet structures seen around the Crab, Vela, and other young pulsars. To better constrain the ages, magnetic field strengths, energetics, and other properties essential to understanding the multiwavelength emissions of both the neutron star and SNR, we aim to detect radio pulsations from the central engines of these two remnants. Arecibo and the new PUPPI backend offer near-optimum capability to carry out these searches.

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Remote Observing Request

- Observer will travel to AO
- Remote Observing
- In Absentia (instructions to operator)

Instrument Setup

L-wide

Atmospheric Observation Instruments:

Special Equipment or setup: We intend to use PUPPI in search mode.

RFI Considerations

Frequency Ranges Planned

1200 - 1800

This proposal requires coordination with Punta Salinas radar within the band 1222-1381 MHz..

This proposal requires coordination with GPS L3 at 1381 MHz.