

Technical Page

This proposal has not been submitted before.

Proposal Type: Short
 General Category: Pulsars
 Observation Category: Extragalactic
 Total Time Requested: 1.75 Hours
 Minimum Useful Time: 1.75 hr

Proposal Title: A Search for Radio Pulsars and Transients in Leo A and Leo T

ABSTRACT:

We propose to search for radio pulsars and transients in two dwarf irregular galaxies: Leo A and Leo T. The detection and study of radio pulses from compact objects in another galaxy helps us understand star formation and pulsar evolution at early stages. Detection of extragalactic pulsars also offers the opportunity to probe the poorly understood ionized intergalactic medium. Neither Leo A or T appears to have been searched yet for pulsars. Arecibo offers the best chance of a detection owing to its large collecting area and instantaneous sensitivity to giant pulses. The availability of the PUPPI backend at Arecibo makes a search for single giant pulses from these targets more feasible than ever before. Our estimates suggest that in 30 min integrations we could detect a dozen or more 8-sigma pulses (for Leo A) and several hundred (for Leo T) from Crab-like pulsars present that are beaming toward us.

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Remote Observing Request

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

Instrument Setup

327

Atmospheric Observation Instruments:

Special Equipment or setup: PUPPI in fast4k search mode.

RFI Considerations

Frequency Ranges Planned

277 - 377