

Technical Page

This proposal has not been submitted before.

Proposal Type: Regular
 General Category: Pulsars
 Observation Category: Galactic
 Total Time Requested: 32.5 Hours
 Minimum Useful Time: 45 minutes

Proposal Title: High-Impact MSPs for the International Pulsar Timing Array

ABSTRACT:

We have identified a 40-degree-radius region of sky where new millisecond pulsars (MSPs) added to the International Pulsar Timing Array (IPTA) would optimize the current array’s sensitivity to an isotropic gravitational wave background (GWB). We propose Arecibo observations to search for MSP candidates in unassociated gamma-ray sources detected by Fermi in this region of sky. About half of the sky region has not been searched by modern pulsar surveys. With 10-minute integrations, our targeted search will be nearly twice as sensitive as the PALFA pulsar survey at Arecibo and 5 times more sensitive than the GBNCC survey at Green Bank. We request 32.5 hours to observe 35 MSP candidates using the ALFA receiver and Mock Spectrometer at 1374 MHz.

Name	Institution	E-mail	Phone	Student
Megan E DeCesar	Lafayette College	decesame@lafayette.edu	484-574-1335	no

Remote Observing Request

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

Instrument Setup

ALFA

Atmospheric Observation Instruments:

Special Equipment or setup: none

RFI Considerations

Frequency Ranges Planned

1225 - 1525

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

This proposal requires coordination with GPS L3 at 1381 MHz.