This proposal has been submitted before.

The previous proposal number is P2717.

Proposal Type: Regular
General Category: Pulsars
Observation Category: Galactic
Total Time Requested: 85 Hours
Minimum Useful Time: 1.25

Proposal Title: Millisecond pulsar searches in unidentified Fermi sources at high Galactic latitudes

ABSTRACT:
The Large Area Telescope (LAT) on the Fermi Gamma-Ray Space Telescope is revolutionizing the study of the high-energy sky and of pulsars. Fermi-LAT has identified more than 130 pulsars, including the new class of gamma-ray-emitting millisecond pulsars (MSPs). Many of these MSPs are being discovered worldwide in radio searches of unidentified LAT sources located at high Galactic latitudes. At Arecibo we propose to survey 58 well-selected high-latitude unidentified sources from the 4-year LAT source list. We will search for MSPs in these targets at a frequency of 327 MHz, observing each source four times to counter the effects of scintillation, eclipses, and orbital acceleration, which otherwise demonstrably diminish the chance to detect existing MSPs in such systems. Our survey will be the most sensitive such work done anywhere, and is a continuation of similar successful work recently started at Arecibo.

<table>
<thead>
<tr>
<th>Name</th>
<th>Institution</th>
<th>E-mail</th>
<th>Phone</th>
<th>Student</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fernando Camilo</td>
<td>NAIC</td>
<td><a href="mailto:camilo@naic.edu">camilo@naic.edu</a></td>
<td>787-878-2612, ext 361</td>
<td>no</td>
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</tbody>
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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: We will be using PUPPI, and after each session will stream data off to our own external disks, which we will FedEx to the processing sites.

RFI Considerations

Frequency Ranges Planned

292-362