This proposal has not been submitted before.

Proposal Type: Regular
General Category: Pulsars
Observation Category: 
Total Time Requested: 6 Hours
Minimum Useful Time: 30 minutes

Proposal Title: Continued timing of a millisecond pulsar in a stellar triple system

ABSTRACT:
The millisecond pulsar hierarchical triple system 0337+1715 has gotten much more exciting over the past year, thanks in large part to Arecibo timing observations. We now have a full high-precision timing solution of the system, with the timing model based on accurate three-body gravitational simulations. The model has already provided the orbital inclinations and masses of all three stars to high precision. Over the coming year we will begin to measure secular changes to the orbits due to three-body effects and will make by far the best test of the Strong Equivalence Principle (SEP) to date. This test will have important implications for basic physics, and the extension to the Arecibo timing baseline will be critical for setting a tight and robust limit on SEP violations.

<table>
<thead>
<tr>
<th>Name</th>
<th>Institution</th>
<th>E-mail</th>
<th>Phone</th>
<th>Student</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scott M Ransom</td>
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<td>no</td>
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Remote Observing Request

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

Instrument Setup

430 G L-wide

Atmospheric Observation Instruments:

Description of Observer Equipment: PUPPI

Special Equipment or setup: none

RFI Considerations
Frequency Ranges Planned