This proposal has not been submitted before.

Proposal Type: Urgent
General Category: Planetary Radar
Observation Category: Solar System
Total Time Requested: 6.5 Hours
Minimum Useful Time: 1.50

Proposal Title: Bistatic Radar Observations of Potentially Hazardous Near-Earth Asteroid 2017 VR12

ABSTRACT:
We request 6.5 hours of telescope time (including transmitter warm up) on March 6, 00:30-04:15 AST, and March 7, 01:00-03:45 AST, to observe potentially hazardous near-Earth asteroid 2017 VR12 with Arecibo, Goldstone, and elements of the Very Long Baseline Array. These are the only times when this object is visible from Arecibo. Very little is known about 2017 VR12 other than its absolute magnitude of 20.5, which suggests a diameter within a factor of two of 240 meters. Arecibo observations will improve our knowledge of the orbit, size, and surface properties of the asteroid, while receiving transmissions from Goldstone may allow for higher resolution radar images than using Arecibo alone. Arecibo transmitting and elements of the Very Long Baseline Array receiving will help further constrain the asteroid’s spin state.

<table>
<thead>
<tr>
<th>Name</th>
<th>Institution</th>
<th>E-mail</th>
<th>Phone</th>
<th>Student</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patrick A Taylor</td>
<td>Arecibo Observatory</td>
<td><a href="mailto:ptaylor@naic.edu">ptaylor@naic.edu</a></td>
<td>787-878-2612 x358</td>
<td>no</td>
</tr>
</tbody>
</table>

Remote Observing Request

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

Instrument Setup

- S-Band radar
- S-band receiver

Atmospheric Observation Instruments:

Special Equipment or setup: none
RFI Considerations

Frequency Ranges Planned