Technical Page

This proposal has not been submitted before.

Proposal Type:	Urgent
General Category:	Planetary Radar
Observation Category:	Solar System
Total Time Requested:	2.25 Hours
Minimum Useful Time:	1.0

Proposal Title: Radar Speckle Observations of Small Near-Earth Asteroid 2017 MC1

ABSTRACT:

We request 2.25 hours of telescope time (including transmitter warm up) on July 1 from 04:30 to 06:45 AST to observe small near-Earth asteroid 2017 MC1 both with Arecibo alone and with Arecibo transmitting and elements of the Very Long Baseline Array receiving. This is the only date and time predicted to have sufficient signal for a bistatic speckle tracking experiment. Very little is known about 2017 MC1 other than its absolute magnitude of 24.6, which suggests a diameter within a factor of two of 40 meters. Arecibo observations will improve our knowledge of the orbit, size, and surface properties of the asteroid, while using the Very Long Baseline Array will help constrain its spin sate. This observing request disrupts scheduled blocks of X111 and P1693 and follows P2030 and P3114 such that ALFA would need to be covered from 04:00-04:30 AST.

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Remote Observing Request

- [X] 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