

Technical Page

Proposal Type: Regular
 General Category: Planetary Radar
 Observation Category:
 Total Time Requested: 60.5 Hours

Proposal Title: Radar Imaging and Shape Reconstruction of Asteroids 10115 (1992 SK), 23187 (2000 PN9), 9 Metis, and 105 Artemis

ABSTRACT:

We propose delay-Doppler radar imaging of near-Earth asteroids 10115 (1992 SK) and 23187 (2000 PN9) and main-belt asteroids 9 Metis and 105 Artemis. Our goal is to construct 3D physical models and estimate spin states. These objects, all of which have previously been observed by radar, have a variety of sizes, orbital parameters and intriguing radar signatures. For 1992 SK, a preliminary 3D model already exists and can be tested and refined. For 2000 PN9, we will also search for small, rapidly rotating satellites that may have been too weak to detect previously. For all objects, the echo strengths will be at least 10 times higher than the previous observations. Metis and Artemis can next be observed at comparable signal-to-noise and orientation in 2017. 1992 SK will approach Earth again in 2059. 2000 PN9 cannot be observed at such high echo strength again until 2408.

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Service Observing Request

Remote Observing Request

- None
- All of the observing run.
- Part of the observing run.
- Queue Observing

- No
- Maybe
- Yes

Instrument Setup

S-Band radar

Atmospheric Observation Instruments:

Special Equipment or setup: none

RFI Considerations

Frequency Ranges Planned