

Technical Page

This proposal has not been submitted before.

Proposal Type: Urgent
 General Category: Planetary Radar
 Observation Category: Solar System
 Total Time Requested: 27.5 Hours
 Minimum Useful Time: 2h

Proposal Title: Radar observations of asteroid 16 Psyche

ABSTRACT:

Asteroid 16 Psyche is the largest metallic asteroid in the solar system. With delay-Doppler observations made in 2015, we developed 10km resolution shape model of Psyche. The model shows evidence of large craters and variations in metal content across the surface (Shepard et al. Icarus 281, 388-403, 2017). The shape model is now being used by groups at NASA and ESA to design mission proposals to Psyche. We propose to observe Psyche in March 2017. Although the SNR is not strong enough for delay-Doppler imaging, it will be a strong CW target. Most importantly, this encounter is at an aspect invisible to our previous observations (latitudes $>+45$) and these observations are of great importance for refining the size, pole, and radar properties of our shape model.

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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