Proposal Identification No.: R2313 Date Received: 2007-Feb-02_01:03:42

Technical Page

Proposal Type:	Long-term
General Category:	Planetary Radar
Observation Category:	Solar System
Total Time Requested:	471 Hours
Minimum Useful Time:	2 hr (including transmitter setup)

Proposal Title: Radar Imaging of 21 Main-Belt Asteroids

ABSTRACT:

We propose to undertake delay-Doppler radar imaging of 21 large main-belt asteroids. These targets have been chosen to yield strong echoes, with signal-to-noise ratios of at least 75 per night. Our objective is to obtain unprecedented information about the large-scale (many-kilometer) structure of the radar-facing portions of the surface. In most cases we request five consecutive nights per target, enabling us to build up signal and to obtain reasonable rotation phase coverage. In cases where this coverage is fairly complete we will invert the data to produce 3-D shape models; even in the other cases, we will learn about craters and other concavities in the well-imaged portions of the surface and will use lightcurve data to constrain the target's overall shape. These observations represent significant (often enormous) improvements over past radar experiments on these asteroids.

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Christopher Magri	University of Maine at Farmington	magri@maine.edu	207-778-7369	no

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

2380