

Technical Page

Proposal Type: Long-term
 General Category: Planetary Radar
 Observation Category: Solar System
 Total Time Requested: 333 Hours

Proposal Title: A Two-Year Radar Survey of Fifty Mainbelt Asteroids

ABSTRACT:

We propose a two-year radar survey of fifty mainbelt asteroids in order to increase the radar-detected sample by more than 100% and to provide otherwise unavailable information about these objects' mineralogical and structural characteristics and meteoritic associations. Specific key questions to be addressed involve the nature of S-class asteroids (differentiated or chondritic?), the near-surface bulk densities of the primitive carbonaceous classes, and the apparent dispersion of metal concentrations among M-class asteroids. The survey also will strongly constrain how the severity of surface roughness at decimeter scales depends on class and size, with implications for ideas about collisional evolution.

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Instrument Setup

S-Band radar S-band receiver

Atmospheric Optical Instruments:

Special Equipment or setup: none

RFI Considerations

Frequency Ranges Planned