Technical Page

Proposal Identification No.: R2137
Date Received: 2005-Jun-12 23:13:03

Proposal Type: Regular
General Category: Planetary Radar
Observation Category: Solar System
Total Time Requested: 36 Hours

Proposal Title: Radar Imaging of Near-Earth Asteroids 1998 ST49 and 2002 HW

ABSTRACT:
We propose to obtain high-resolution (15-30m) imaging of near-Earth asteroids 1998 ST49 and 2002 HW. Recent experience (Nolan et al., 2002, Margot et al., 2002, Giorgini et al., 2002) has shown that there is an enormous variety in the shapes, radar reflectivities, and rotation states of near-Earth asteroids. Relatively large objects such as 1998 ST49 (∼1.3 km diameter) and 2002 HW (∼750 m) are available for imaging only a few times per year, and we need to use every opportunity to image these targets. Objects 1 km and larger, if on a collision course with Earth, would be capable of causing global destruction. Although there is no general agreement as to the best method for hazard mitigation, all agree that knowing as much as possible about internal structure of the asteroid in question is vital. Radar imaging can help determine the internal structure by giving us information about the size, spin rate and even density in the case of binary systems.

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<thead>
<tr>
<th>Name</th>
<th>Institution</th>
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</thead>
<tbody>
<tr>
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<td>no</td>
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Service Observing Request

| X | None          | X | No          |
|   | All of the observing run. | Maybe |
|   | Part of the observing run. | Yes   |
|   | Queue Observing | |

Remote Observing Request

Instrument Setup

S-Band radar
S-band receiver

Atmospheric Observation Instruments:

Special Equipment or setup: none

RFI Considerations
Frequency Ranges Planned