Proposal Identification No.: R1928 Date Received: 2004-Feb-02_12:51:24

Technical Page

Proposal Type:	Regular
General Category:	Planetary Radar
Observation Category:	Solar System
Total Time Requested:	2.5 Hours

Proposal Title: Interferometric Radar Observations of Asteroid (25143) Itokawa

ABSTRACT:

Sub-kilometer sized asteroid (25143) Itokawa will closely approach the Earth in June 2004, at which time we request a day to use the S-band radar to illuminate it while the reflected power is imaged by the NRAO's VLBA interferometer. Synthesis imaging of a radar illuminated target could provide plane-of-sky image and position information that is orders of magnitude better than other ground-based methods, and that is complementary to standard radar mapping which has high absolute precision along the line of sight. The Japanese Hayabusa mission will encounter this asteroid mid-2005. With both a spacecraft flyby and extensive ground-based observations during its Earth passage, this is an excellent opportunity to provide 'ground truth' for this imaging method and as well as remote sensing studies of asteroids in general. Precision astrometry obtained from this may also be useful in efforts to measure non-gravitational forces acting on this object.

Name	Institution	E-mail	Phone	Student
Greg Black	University of Virginia	gblack@virginia.edu	434-243-8941	no

Service Observing Request		Remot e Observing Request	
[X]	None	[ ]	No
[ ]	All of the observing run.	[ ]	Maybe
[ ]	Part of the observing run.	[X]	Yes
[ ]	Queue Observing		

Instrument Setup

S-Band radar S-band receiver

Atmospheric Observation Instruments:

Special Equipment or setup: none

RFI Considerations

Frequency Ranges Planned

2380