Proposal Identification No.: R1939 Date Received: 2004-Feb-04_17:24:21

Technical Page

Proposal Type:	Regular
General Category:	Planetary Radar
Observation Category:	Solar System
Total Time Requested:	16 Hours

Proposal Title: 70-cm Wavelength Bistatic Radar Observations of the Lunar Highlands

ABSTRACT:

Radar signals at 70-cm wavelength can penetrate to depths of 5 m or more in the relatively low-loss, anorthositic regolith of the lunar highlands. This makes such observations particularly sensitive to modest changes in the regolith loss tangent and rock population. In contrast, photographic and multispectral data probe only the upper few microns of the lunar surface, and are strongly modulated by shallow compositional differences (such as crater rays) and maturity (space weathering). We propose here to continue to collect Arecibo GBT bistatic, high-resolution 70-cm radar images of the lunar southern highlands, and to combine these data with Clementine infrared and Earth based thermal measurements to better understand the nature of ejecta from the Moon's giant basins.

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Service Observing Request

- [X] None
- [ ] All of the observing run.
- [ ] Part of the observing run.
- [ ] Queue Observing

Remot e Observing Request

- [X] No
- [ ] Maybe
- [ ] Yes

Instrument Setup

430 CH receiver 430 CH radar

Atmospheric Observation Instruments:

Special Equipment or setup: We are submitting this request to the GBT for scheduling of the bistatic experiment.

RFI Considerations

Frequency Ranges Planned

430 MHz

This proposal requires coordination with AFTWF within the band 425-435 MHz.