

Technical Page

This proposal has not been submitted before.

Proposal Type: Regular
 General Category: Planetary Radar
 Observation Category: Planetary
 Total Time Requested: 12 Hours
 Minimum Useful Time: 1h

Proposal Title: Mini-RF on LRO and Arecibo Observatory Bistatic Radar Observations of the Moon

ABSTRACT:

The Miniature Radio Frequency (Mini-RF) instrument on NASA’s Lunar Reconnaissance Orbiter (LRO) is a hybrid dual-polarized synthetic aperture radar (SAR) that has operated in concert with the Arecibo Observatory (AO) to collect bistatic radar data of the lunar nearside from 2012 to 2015 and from 2017 to present. These data provide a means to characterize the scattering properties of the upper meter(s) of the lunar surface, as a function of bistatic angle and are being collected to address the following driving questions for the current LRO extended mission: What controls the distribution of volatiles laterally and with depth in the lunar south pole? How were the final mare eruptions distributed in space and time? Do pyroclastic deposits preserve evidence of mantle heterogeneities and local, near-surface magmatic processes? What is the abundance of impact melt in proximal and distal ejecta deposits of impact craters at all scales? We are proposing here to continue operating in concert w

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Remote Observing Request

- Observer will travel to AO
- Remote Observing
- In Absentia (instructions to operator)

Instrument Setup

S-Band radar

Atmospheric Observation Instruments:

Special Equipment or setup: none

RFI Considerations

Frequency Ranges Planned