

Technical Page

Proposal Type: Regular
 General Category: Planetary Radar
 Observation Category:
 Total Time Requested: 10 Hours

Proposal Title: Arecibo-Goldstone Mars Radar Interferometric Mapping

ABSTRACT:

We request five two-hour sessions around the time of Mars opposition in 2005 to make the first high-spatial resolution (~10 km) S-band near-nadir radar maps of Mars. GSSR demonstrated removal of the north-south ambiguity inherent in near-nadir delay-Doppler planetary radar using four-station interferometry to make 5-km maps at X-band during the 2001 and 2003 oppositions. With Mars once again accessible to the Arecibo radar during the 2005 opposition we propose producing similar 12.6 cm near-nadir radar maps jointly with 3.5 cm near-nadir backscatter maps to enhance the analysis of Martian surface properties. The five requested sessions have already been scheduled by the Deep Space Network (DSN).

| Name | Institution | E-mail | Phone | Student |
|--------------------|---|---------------------------------|--------------|---------|
| Albert F Haldemann | Jet Propulsion Laboratory, California Institute of Technology | albert.f.haldemann@jpl.nasa.gov | 818-354-1723 | no |

Service Observing Request

- None
- All of the observing run.
- Part of the observing run.
- Queue Observing

Remote Observing Request

- No
- Maybe
- Yes

Instrument Setup

S-Band radar

Atmospheric Observation Instruments:

Special Equipment or setup: Record the transmitted PN code using PFS.

RFI Considerations

Frequency Ranges Planned