

Technical Page

Proposal Type: Regular
 General Category: Planetary Radar
 Observation Category:
 Total Time Requested: 23:45 Hours

Proposal Title: Digital elevation models of selected regions of Venus derived using Earth-based radar interferometry

ABSTRACT:

We propose to generate high resolution digital elevation models (DEM) of the equatorial region of Venus between Phoebe Regio and far western Ovda Regio using radar interferometry with Arecibo transmitting and Goldstone receiving. We expect to generate DEMs with between 500 m and 1 km per pixel resolution. This would be more than an order of magnitude improvement over the existing DEM based on Magellan altimetry measurements. The new DEMs will be merged with Magellan imagery in order to investigate the relationship between the emplacement of the plains and the tesserae. In addition, we will investigate the rifting process in Phoebe Regio which extends through pre-existing tesserae terrain. Finally, a high resolution topographic model for the chasma may permit us to generate new constraints on the mode of strain accommodation and effective elastic plate thickness in these regions.

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I NA want to do remote observing.

Instrument Setup

S-Band radar S-band receiver

Atmospheric Optical Instruments:

Special Equipment or setup: none

RFI Considerations**Frequency Ranges Planned**