This proposal has not been submitted before.

Proposal Type: Regular
General Category: Planetary Radar
Observation Category: Solar System
Total Time Requested: 31.5 Hours
Minimum Useful Time: 4.5 hours

Proposal Title: Arecibo Radar Mapping of Venus During the 2020 Conjunction

ABSTRACT:

We propose to acquire dual-polarization, S-band radar images of Venus during the 2020 conjunction. We will use the system for seven days leading up to close approach to obtain about 30 looks with 1-2 km spatial resolution. This work builds on successful observing runs in 2012, 2015, and 2017, which have led to significant scientific results. Our goals for the new data are to: (1) continue the search for active volcanism on the planet through comparison of multi-year data, (2) reveal the polarimetric behavior of possible young volcanic material and fine-grained impact crater materials that blanket the highlands, (3) study the interplay of tectonic/volcanic/weathering processes in the Maxwell Montes region, and (4) further refine our estimate of the mean spin rate for Venus. To ensure the value of the data for future research, we will deliver processed delay-Doppler images to the NASA Planetary Data System.

<table>
<thead>
<tr>
<th>Name</th>
<th>Institution</th>
<th>E-mail</th>
<th>Phone</th>
<th>Student</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bruce Campbell</td>
<td>Smithsonian Institu-</td>
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<td>202 633 2472</td>
<td>no</td>
</tr>
</tbody>
</table>

Remote Observing Request

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

Instrument Setup

S-band receiver

Atmospheric Observation Instruments:

Special Equipment or setup: Administrative Comments: This proposal was originally submitted on Tuesday, September 3, 2019 - 15:43 with Confirmation ID 20190903034301 using the new submission
form available for Sept 5, 2019 Call. It was resubmitted through the old coversheet form [http://www.naic.edu/astro/proposals/aocover-sep19.php] as an identical copy of original submission for administrative processing purposes.

RFI Considerations

Frequency Ranges Planned