Technical Page

Proposal Type: Regular
General Category: Planetary Radar
Sub-Category: Radar
Observation Category: Solar System
Total Time Requested: 24 Hours
Minimum Useful Time: 4 hours

Proposal Title: A Radar Mapping Search for Recent Volcanism on Venus

ABSTRACT:
Radar mapping using the Arecibo telescope in 1988 provided the first 2-km resolution Earth-based image of Venus. The Magellan mission, over the next several years, mapped almost the entire planet at a spatial resolution of about 100 m. At the next close approach in June 2012, we thus have a 24-year baseline to search for surface changes due to volcanic processes. We propose to use the Arecibo S-band transmitter and GBT receivers for six days near close approach, providing a map of the visible hemisphere with 1-km spatial resolution. The result will be a comparison between the 1988 and 2012 datasets, and Magellan data, to show any areas of possible change.

<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 A Campbell</td>
<td>USGS</td>
<td><a href="mailto:bacampbell@usgs.gov">bacampbell@usgs.gov</a></td>
<td>928 556-7220</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 radar

Atmospheric Observation Instruments:

Special Equipment or setup: none

RFI Considerations

Frequency Ranges Planned
2380 MHz