Technical Page

This proposal has not been submitted before.

Proposal Type: Regular
General Category: Astronomy
Observation Category: Galactic
Total Time Requested: 40 Hours
Minimum Useful Time: 3 hrs

Proposal Title: AO19 Cryo PAF Observing Campaign

ABSTRACT:
The objective of this experiment is to obtain the sensitivity field of view (FOV) map response, with the AO19 Cryo PAF camera at the Arecibo Telescope. The AO19 Cryo PAF is a 19 dipole element, dual polarized, all cryo-cooled phased array feed (PAF), with a frequency of operation from 1.2 GHz to 1.8 GHz, developed at Cornell University. Both the dual polarization dipoles and low noise amplifiers (LNA) of the cryo-PAF front are cooled down to approximately 18K degrees, to increase sensitivity. The back end, developed by Brigham Young University (BYU), provides the down conversion and digitalization of the each the 38 front-end channels. The digitized signal bandwidth is 20MHz, per channel. The data is stored in disk to obtain off-line the noise correlation matrix (NCM) of the system. Once the NCM is obtained, a full instantaneous 5 arcmin x 5 arcmin FOV could be sampled in a single pointing.

<table>
<thead>
<tr>
<th>Name</th>
<th>Institution</th>
<th>E-mail</th>
<th>Phone</th>
<th>Student</th>
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<tbody>
<tr>
<td>German Cortes-Medellin</td>
<td>Cornell University</td>
<td><a href="mailto:gc76@cornell.edu">gc76@cornell.edu</a></td>
<td>(607) 255-5285</td>
<td>no</td>
</tr>
</tbody>
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Remote Observing Request

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

Instrument Setup

Atmospheric Observation Instruments:

Description of Observer Equipment: AO19 Cryo-PAF
Special Equipment or setup: none

RFI Considerations

Frequency Ranges Planned