

## 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.

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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**