

Technical Page

This proposal has not been submitted before.

Proposal Type: Regular
 General Category: Astronomy
 Sub-Category: Continuum
 Observation Category: Extragalactic
 Total Time Requested: 32 Hours
 Minimum Useful Time: 2:00

Proposal Title: High Resolution Continuum Imaging of the 400 MHz Celestial Brightness Minimum

ABSTRACT:

Seen from within our Milky Way, the sky shows a bewildering mix of galaxies and diffuse radiation. We target this diffuse radiation with unprecedented resolution and sensitivity and at an optimal "low" radio frequency of 400 MHz, with angular resolution down to 3' (0.05 degree). The Arecibo telescope (12' resolution) is ideal for this purpose, if twinned with another radio telescope having higher resolution. At 12' faint discrete radio sources blend together, and are impossible to separate from diffuse emission. The ideal twin for the Arecibo telescope is the DRAO synthesis telescope. This has the resolution and image precision needed to separate individual radio sources from the diffuse emission – our target. We can then explore components of the diffuse intergalactic medium, out to the highest observable redshifts. It contains magnetic energy, the mysterious elusive dark matter, other unexplained energy, and energetic subatomic particles and photons.

Name	Institution	E-mail	Phone	Student
Phil Kronberg	LANL, University of Toronto	philkronberg@gmail.com	505 310 8077	no

Remote Observing Request

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

Instrument Setup

430 G

Atmospheric Observation Instruments:

Special Equipment or setup: none

RFI Considerations

Frequency Ranges Planned

422 - 442