

Technical Page

This proposal has not been submitted before.

Proposal Type: Regular
 General Category: Astronomy
 Sub-Category: Spectroscopy
 Observation Category: Extragalactic
 Total Time Requested: 51 Hours
 Minimum Useful Time: 72 minutes

Proposal Title: Towards A New Probe of Dark Matter: HI Masses of Strong Spiral Lenses

ABSTRACT:

The goal of this proposal is to obtain HI masses of the closest sample of strong spiral lenses at an average redshift of 0.1. This is a critical first step, which would ultimately enable us to derive two independent probes of the dark matter distribution for this set of sources – from the HI analysis that we have been developing, and from gravitational lensing. The superior sensitivity of Arecibo makes it the ideal instrument to obtain HI masses of this sample. Pilot surveys at comparable redshifts have yielded HI spectra of disk galaxies, which demonstrates the power of Arecibo for carrying out these observations. By determining HI masses of this sample, we will be able to pare it down to the HI-rich sources, which we will follow up with high resolution VLA observations to obtain maps. These observations will also complement large HI surveys and allow us to put this unique sample in the broader framework of HI mass functions.

Name	Institution	E-mail	Phone	Student
Sukanya Chakrabarti	Rochester Institute of Technology	chakrabarti@astro.rit.edu	510-967-5766	no

Remote Observing Request

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

Instrument Setup

L-wide

Atmospheric Observation Instruments:

Special Equipment or setup: none

RFI Considerations

Frequency Ranges Planned

1161 - 1335 MHz

This proposal requires Iridium RFI protection at 1612 MHz between 10pm and 6am EST.

This proposal requires coordination with Punta Salinas radar within the band 1222-1381 MHz..

This proposal requires coordination with GPS L3 at 1381 MHz.