

Technical Page

Proposal Type: Regular
 General Category: Astronomy
 Observation Category: Extragalactic
 Total Time Requested: 71 Hours
 Minimum Useful Time: 1 hour

Proposal Title: Local Turbulent Disks: analogs of high-redshift vigorously star-forming disks and laboratories for galaxy assembly

ABSTRACT:

We request Arecibo observations to measure the neutral gas mass of 35 low redshift galaxies we have discovered with unique kinematic and star-formation properties. These systems appear to closely resemble massive highly turbulent disk galaxies at z=2 revealed by Adaptive Optics (AO) Integral Field Spectroscopic (IFS) observations. Such massive turbulent disks are relatively common at high redshift but until our study no nearby counterparts for these galaxies were known. The selected targets form a unique sample of local laboratories to study one of the most fundamental modes of galaxy growth and star formation. The systems are predicted to have high atomic and molecular gas fractions of 30-50% (or more) as has been observed in z=2 disks. Observations of the atomic gas with Arecibo will provide a complete tally of the gas reservoir in these turbulent disk galaxies and complement our current observing programs with Gemini/GMOS, Herschel, HST and Keck/OSIRIS.

Name	Institution	E-mail	Phone	Student
Attila Popping	International Centre for Radio Astronomy Research	attila.popping@icrar.org	+61 8 6488 7929	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

1193 - 1267

1302 - 1352

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