

Technical Page

This proposal has not been submitted before.

Proposal Type: Regular
 General Category: Astronomy
 Sub-Category: Spectroscopy
 Observation Category: Extragalactic
 Total Time Requested: 47 Hours
 Minimum Useful Time: 75 minutes

Proposal Title: Finding HI in Local Analogs of High Redshift Galaxies

ABSTRACT:

Green Pea Galaxies are compact, low-mass, extreme starburst systems in the nearby Universe. Their identifying characteristic is the presence of optical emission lines that rival the stellar continuum in their total luminosity. Such strong line emission implies vigorous star formation. UV spectroscopy with the Hubble Space Telescope shows that Green Peas are the best analogs of high redshift Lyman-alpha emitters (LAEs), and frequently show Lyman continuum escape. Optical spectra show characteristically low metallicities. Both the lower metallicity and the presence of a recent starburst indicates a significant gas reservoir. However, we still know nothing about the gas content of these galaxies, the fuel for the star formation. We propose here to use the Arecibo L-band receivers to measure the HI mass of a sample of 25 Green Pea galaxies at redshifts up to 0.10, with a wide range of stellar masses and gas-phase metallicities.

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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

1354-1420

1336-1341

1292-1325

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

This proposal requires coordination with GPS L3 at 1381 MHz.