

## Technical Page

This proposal has not been submitted before.

Proposal Type: Regular  
 General Category: Astronomy  
 Observation Category: Extragalactic  
 Total Time Requested: 22 Hours  
 Minimum Useful Time: 3 hours

**Proposal Title:** The Baryonic Content of Extremely Low Mass Galaxies

*ABSTRACT:*

We propose continued HI observations of low mass galaxies to better quantify the galaxy mass function. At low masses, the mass function is related to the small-scale matter power spectrum. We focus here on isolated low mass galaxies, which are less affected by environmental processes as compared to similar galaxies in the Local Volume. In 2014A, we observed 61 isolated low mass galaxies with Arecibo with masses between 40-60 km/s, tripling the number of observations in this mass regime. We have determined that even isolated galaxies display significant scatter in their gas mass to stellar mass ratio and the Tully-Fisher relation as compared to more massive galaxies. The proposed observations will better constrain the scatter in the observed scaling relations and allow a more robust estimate of the baryonic and the dynamical masses. We request 32 hours of L-band observing to expand our isolated galaxy sample to lower masses.

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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

1425 - 1445