Technical Page

This proposal has not been submitted before.

Proposal Type: Regular  
General Category: Astronomy  
Sub-Category: Spectroscopy  
Observation Category: Extragalactic  
Total Time Requested: 36.5 Hours  
Minimum Useful Time: 2.5 hours

Proposal Title: On the trail of monsters: Confirmation of Massive HI Galaxies in the Local Universe  

ABSTRACT:

The gas content of galaxies is an important ingredient in our understanding of galaxy evolution. However, even the largest HI surveys fall orders of magnitude short of the size of large optical surveys. The need for complementary HI measurements has led to the development of techniques to predict HI mass, based on other galactic properties. We have recently developed an artificial neural network (ANN) that yields high confidence HI gas fraction predictions for over 130,000 galaxies in the SDSS. Intriguingly, these predictions include a population of high stellar mass galaxies with high gas fractions that do not exist in current low redshift HI surveys. We propose to test the ANN-predicted high HI masses of a small subset of these galaxies. The results will either confirm some of the highest HI mass galaxies yet discovered or demonstrate an important limitation of these gas fraction predictions.

<table>
<thead>
<tr>
<th>Name</th>
<th>Institution</th>
<th>E-mail</th>
<th>Phone</th>
<th>Student</th>
</tr>
</thead>
<tbody>
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</tbody>
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Remote Observing Request

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

Instrument Setup

L-wide

Atmospheric Observation Instruments:
Special Equipment or setup: none

RFI Considerations

Frequency Ranges Planned

1206-1316

This proposal requires coordination with Punta Salinas radar within the band 1222-1381 MHz.
This proposal requires coordination with GPS L3 at 1381 MHz.