

Technical Page

This proposal has not been submitted before.

Proposal Type: Regular
 General Category: Astronomy
 Sub-Category: Spectroscopy
 Observation Category: Extragalactic
 Total Time Requested: 42 Hours
 Minimum Useful Time: 2 hours

Proposal Title: Harvesting ALFALFA: Reaping the 21cm Harvest in the Pisces-Perseus Supercluster and the Foreground Void

ABSTRACT:

One of the most prominent local underdensities is the void separating the Local Supercluster from the Pisces-Perseus Supercluster. This region serves as an excellent laboratory to test the "Void Phenomenon", the apparent discrepancy between the number of observed galaxies in voids and the number of low mass dark matter halos predicted by simulations to reside in them. In order to increase the redshift sampling of galaxies in this region, we propose to observe 280 candidate ALFALFA HI detections with signal-to-noise ratios $5 < S/N < 6.5$ and coincident with optical counterparts of unknown redshift. Based on previous ALFALFA followup results, we predict the detection rate for the proposed short LBW observations will be $>70\%$. Increasing the number of known redshifts will allow us to characterize the structure and density contrast of the void and to identify or set further limits on the population of galaxies within it.

Name	Institution	E-mail	Phone	Student
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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

1375-1430

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

This proposal requires coordination with GPS L3 at 1381 MHz.