

## Targeted HI Line Observations of Low Mass Galaxies in the Pisces-Perseus Supercluster: Results for the Declination Strip $30^\circ < \text{Dec} < 32^\circ$ . ()

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The Arecibo Pisces-Perseus Supercluster Survey (APPSS) is an observing project undertaken by the Undergraduate ALFALFA Team that aims to detect HI in galaxies in the Pisces-Perseus neighborhood and analyze the dynamics and the properties of the galaxies. The galaxies targeted in APPSS are suspected from their optical properties (color, morphology, surface brightness) to lie in the Pisces-Perseus Supercluster (PPS) but are below the detection threshold of the ALFALFA blind HI survey. Here we present results for galaxies targeted in a strip across the PPS region in declination from  $30^\circ$  to  $32^\circ$ . This region is along the main filament of the supercluster and includes objects such as the Pisces Cluster. The data was recorded by the L-Band Wide receiver of the Arecibo Observatory. Data reduction was done using routines derived for the APPSS in IDL. After baselining the spectra and sifting out radio interference, we fit either a gaussian or two-horned profile to their 21-centimeter line to measure the HI line flux density, velocity, and velocity width. From these parameters we calculate distances, hydrogen gas mass, and rotational velocities. As expected, the galaxies analyzed in this slice of declination have consistently lower mass than the ALFALFA detections thus extending the sampling of galaxies within the PPS. The combined ALFALFA and APPSS HI line detections will be used for future applications of the Baryonic Tully-Fisher Relation in this region. This research has been supported by NSF grant NSF/AST-1714828 to M.P.Haynes and by the Brinson Foundation for the Arecibo Pisces-Perseus Supercluster Survey (APPSS).

**Publication:**


American Astronomical Society, AAS Meeting #233, id.261.07

**Pub Date:**

January 2019

**Bibcode:**

2019AAS...23326107K

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