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**Title:** Extending ALFALFA in the Direction of the Pisces-Perseus Supercluster with the Arecibo L-Band Wide Receiver

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**Abstract**

We have completed three "Harvesting ALFALFA" Arecibo observing programs in the direction of the Pisces-Perseus Supercluster (PPS) since ALFALFA observations were finished in 2012. The first was to perform follow-up observations on high signal-to-noise (S/N > 6.5) ALFALFA detections needing confirmation and low S/N sources lacking optical counterparts. A few more high S/N objects were observed in the second program along with targets visually selected from the Sloan Digital Sky Survey (SDSS). The third program included low S/N ALFALFA sources having optical counterparts with redshifts that were unknown or differed from the ALFALFA observations. It also included more galaxies selected from SDSS by eye and by Structured Query Language (SQL) searches with parameters intended to select galaxies at the distance of the PPS (~6,000 km/s). We used pointed basic Total-Power Position-Switched Observations in the 1340 - 1430 MHz ALFALFA frequency range. For sources of known redshift, we used the Wideband Arecibo Pulsar Processors (WAPP's) , while for sources of unknown redshift we utilized a hybrid/dual bandwidth Doppler tracking mode using the Arecibo Interim 50-MHz Correlator with 9-level sampling. Results confirmed that a few high S/N ALFALFA sources are spurious as expected from the work of Saintonge (2007), low S/N ALFALFA sources lacking an optical counterpart are all likely to be spurious, but low S/N sources with optical counterparts are generally reliable. Of the optically selected sources, about 80% were detected and tended to be near the distance of the PPS. This work has been supported by NSF grant AST-1211005.

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