ARECIBO GALAXY ENVIRONMENT SURVEY

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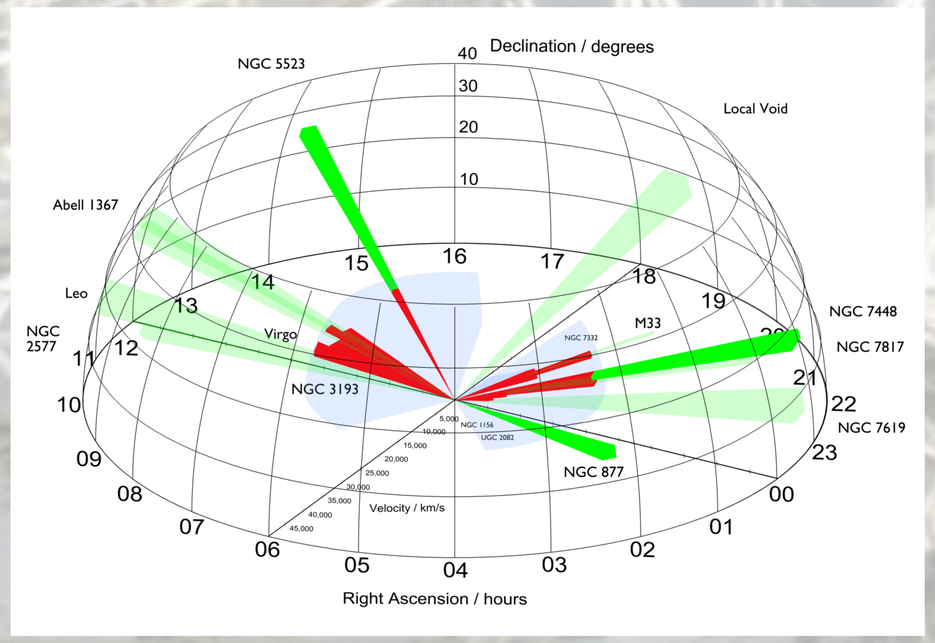
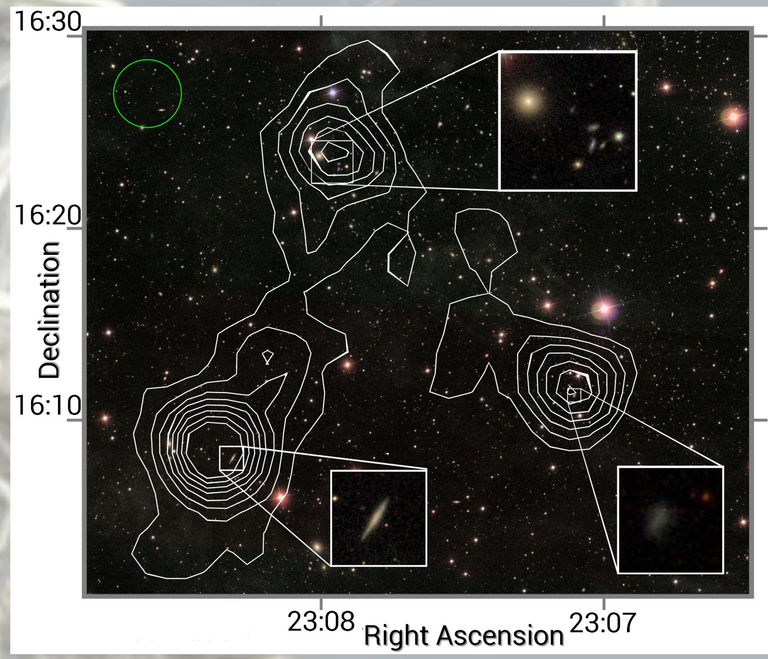
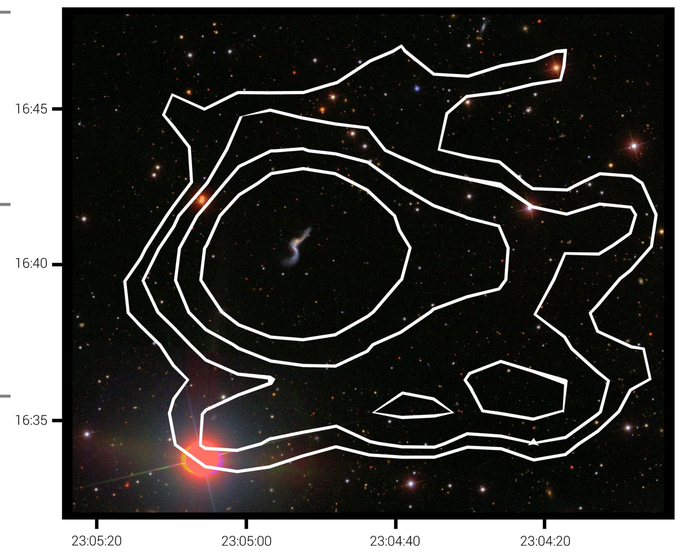
www.naic.edu/~ages



AGES is an extragalactic neutral hydrogen survey covering a total of 200 square degrees, to a sensitivity of 0.7 mJy. 16 target fields cover the full range of galaxy environments from voids to clusters. The survey is bandpass limited up to z=0.16.

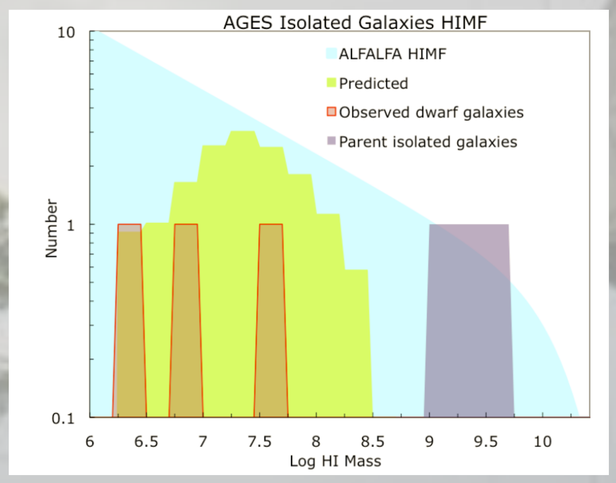


In the volume behind the NGC 7448 group, we have detected a filamentary structure with many galaxies connected by HI streams. Some of these are as much as 800 kpc in length.

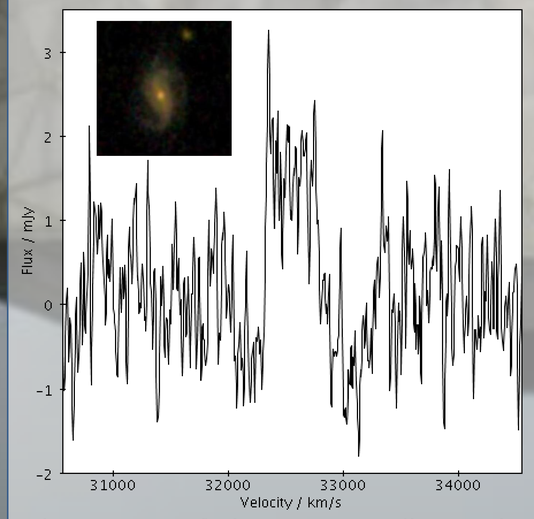


SDSS RBG images with HI contours overlaid.

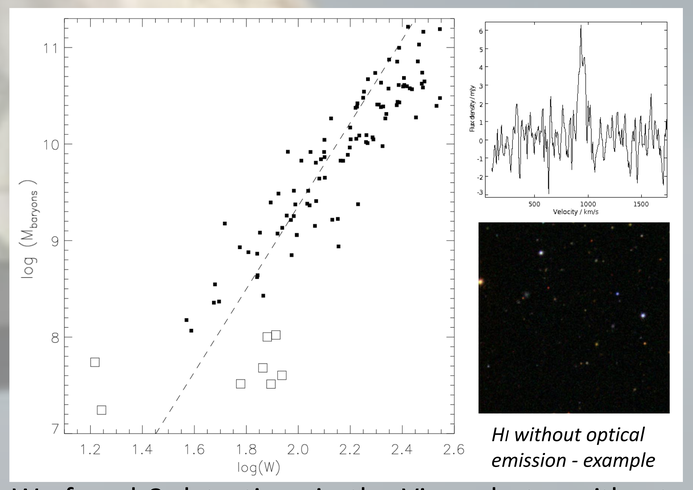
Most galaxies in this volume do not show disturbed stellar emission. UGC 12342 is an exception – an ongoing merger with HI emission as much as 450 kpc across.



We surveyed 3 isolated galaxies and found that their HIMF is inconsistent with the field HIMF at the 5σ level – they are really isolated, both in the optical and HI wavebands.

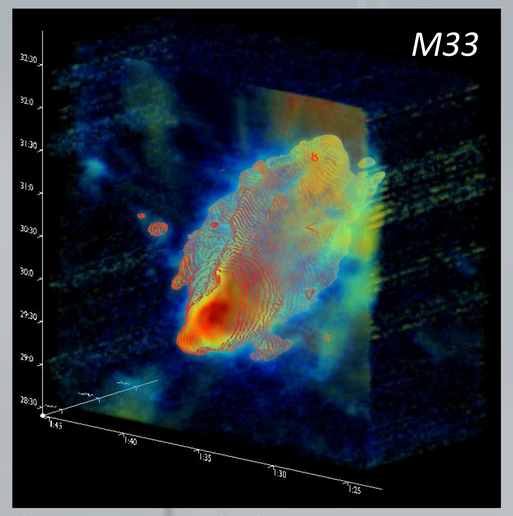


About 50% of the survey will use the Mock spectrometer, which allows us to directly detect HI at z > 0.1.



HI without optical emission - example

We found 8 detections in the Virgo cluster without obvious optical counterparts (open squares). 6 of these do not lie on the baryonic Tully-Fisher relation: their velocity widths are too high, up to 200 km/s.



Our custom FITS viewer FRELLED can display data in 3D, mask sources, plot contours, and has a magical moose.