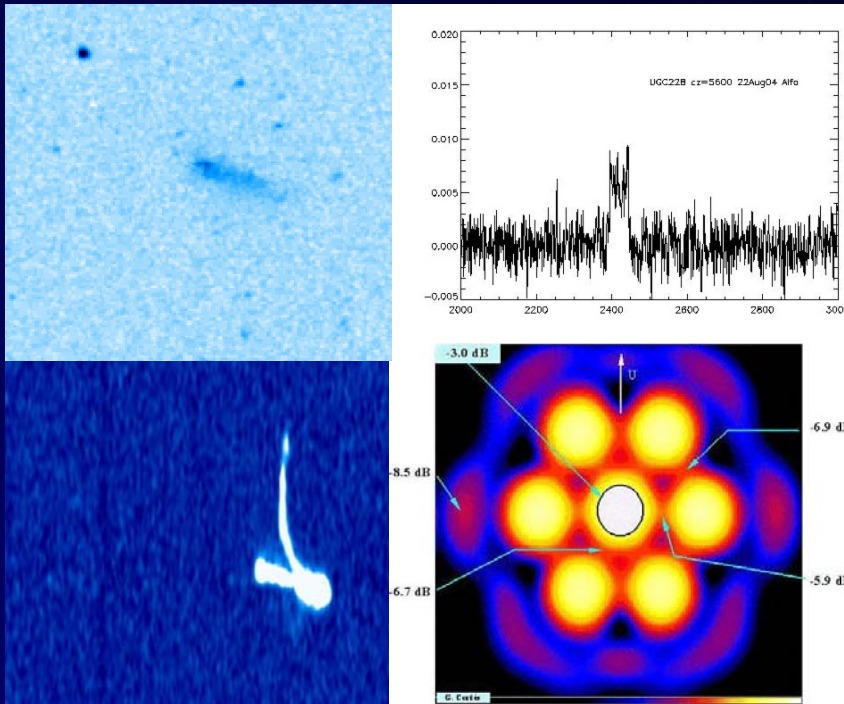




ALFALFA: Summary of other proposed projects

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ALFALFA at Ithaca
June 23-24, 2006



ALFALFA

<http://egg.astro.cornell.edu/alfalfa>



The Arecibo Legacy Fast ALFA Survey

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Overview



Arecibo is the world's most sensitive radio telescope at L-band. In addition to that all-important sensitivity advantage, Arecibo equipped with ALFA offers important and significant improvements in angular and spectral resolution over the available major wide area extragalactic HI line surveys such as HIPASS and HIJASS. To break ground into new science areas, extragalactic HI surveys with ALFA must exploit those capabilities to explore larger volumes with greater sensitivity than have the previous surveys. The lowest mass objects will only be detected nearby; wide areal coverage is the most efficient means of increasing the volume sampled locally. An extragalactic survey covering the high galactic latitude sky visible from Arecibo will produce an extensive database of HI spectra that will be of use to a broad community of investigators, including many interested in the correlative mining of

multiwavelength datasets; we thus dub this program the *Arecibo Legacy Fast ALFA* survey: **ALFALFA**. A comparison of major blind HI surveys and ALFALFA is presented in [Table B.1](#). A 2-pass drift survey will deliver 1.6 mJy/channel sensitivity (at 18 km/s), 8× better than HIPASS and with 4× better angular resolution (FWHM). In addition to its broad applications, such a wide area HI survey will serve as a strategic approach to a number of focussed E-ALFA science objectives. In coordination with this survey, deeper studies of selected regions, some of which await the second generation E-ALFA spectrometer, will address other critical E-ALFA science goals that are not discussed herein.



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The Arecibo Legacy Fast ALFA Survey

ALFALFA science projects

The science projects listed here have been proposed by subgroups of the ALFALFA team under the ALFALFA and will become active following with approval of the ALFALFA Oversight Committee.

It is hoped that projects will follow the ALFALFA [recommended project guidelines](#) and apply the [recommended criteria for authorship](#).

- ALFALFA [team projects](#)
- ALFALFA [graduate student projects](#)
- ALFALFA [undergraduate student projects](#)

This page maintained by members of the Cornell ExtraGalactic Group.

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Official ALFALFA Team Projects

ALFALFA is an [open science collaboration](#). It is assumed that all projects undertaken as part of the collaboration will adopt the general ALFALFA [recommended project guidelines](#) and the [recommended criteria for authorship](#).

The projects listed here have been submitted to and approved by the ALFALFA Oversight Committee.

Team projects

Title	Team leader	Timeframe	Project Summary
Blended HI signals from distant clusters	Lyle Hoffman	Long term	Summary
An H-alpha Imaging Survey for a Volume-Limited Sample of ALFALFA Sources	John Salzer	Long term	Summary
Synthesis Imaging of Low Mass Dwarfs discovered by ALFALFA	Ayesha Begum	Long term	(Coming)
Integrated Spectra of galaxies detected by ALFALFA	Alessandro Boselli	Long term	(Coming)
H-alpha Imaging of ALFALFA Galaxies in Selected Cluster Fields	Peppo Gavazzi	Long term	(Coming)
ALFALFA survey of the region around ZwCL1400+0949	Tom Balonek	AY2006-7	(Coming)

Graduate student PhD (i.e major) projects

Project title	Student	Institution	Context	Adviser	Timeframe	Project Summary
Chemical abundances of low mass galaxies	Amélie Saintonge	Cornell	Part of PhD thesis	Riccardo Giovanelli	2007	Summary
First epoch ALFALFA Virgo cluster survey	Brian Kent	Cornell	Part of PhD thesis	Riccardo Giovanelli	2008	Summary
Cross-correlation of ALFALFA HI detections with SMUGGES objects	Prasanth Nair	Indiana U.	Part of PhD thesis	Liese van Zee	2008	Summary



ALFALFA

Proposed science projects



- **Blended HI signals from distant clusters**
 - PI: Lyle Hoffman
 - Processing by Lafayette ALFALFA team
 - Josh Goldstein summer project
 - Josh and Lyle can tell us more.....
- **ALFALFA and SMUDGES**
 - PI: Prasanth Nair
 - Analysis of SMUDGES strip (+07°)
 - Processing by ALFALFA team (+ project team)
 - Prasanth can tell us more...
- **ALFALFA survey of Zw1400+0949**
 - PI: Tom Balonek
 - Analysis of grids around cluster
 - Begun as senior thesis project of Brian Walsh



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