

# Multi-Wavelength Data in the Spring Dec. 0-5° Equatorial Region

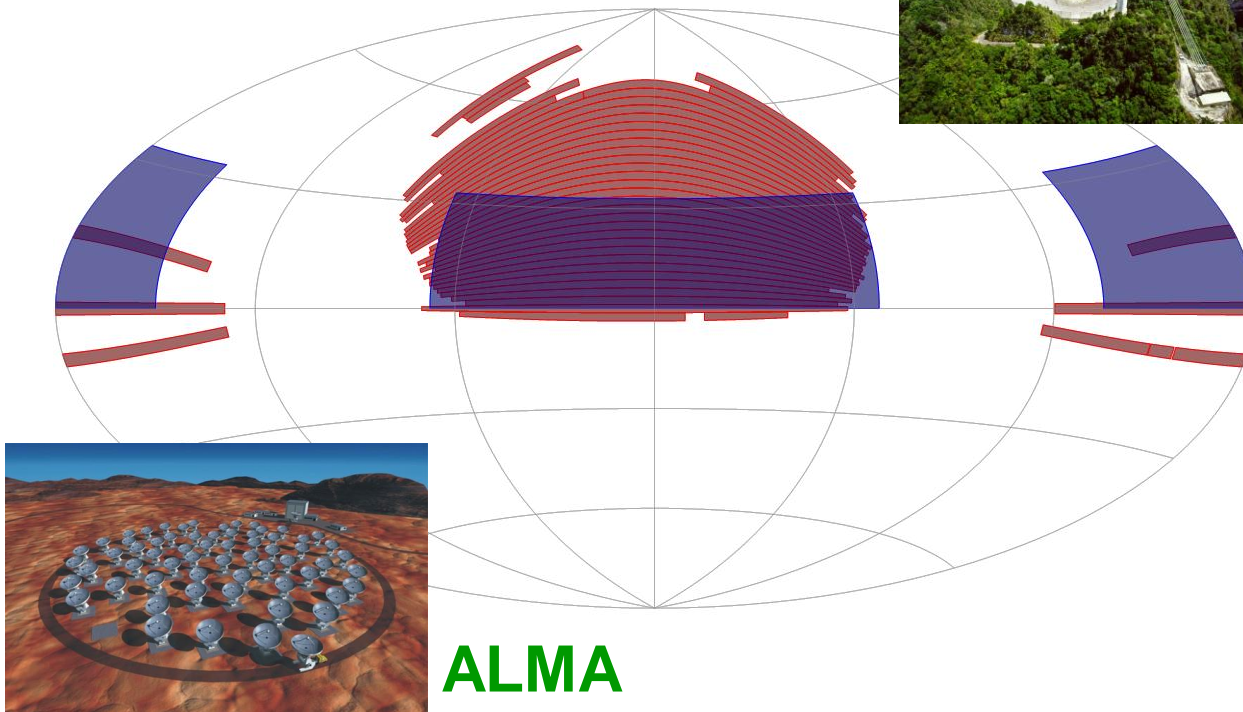
**Beyond Stripe 82:  
opportunity for bigger/better equatorial synergy.**

# Multi-Wavelength Data in the Spring Dec. 0-5° Equatorial Region

- high future overlap of ALFALFA HI + ALMA CO  
atomic & molecular gas data



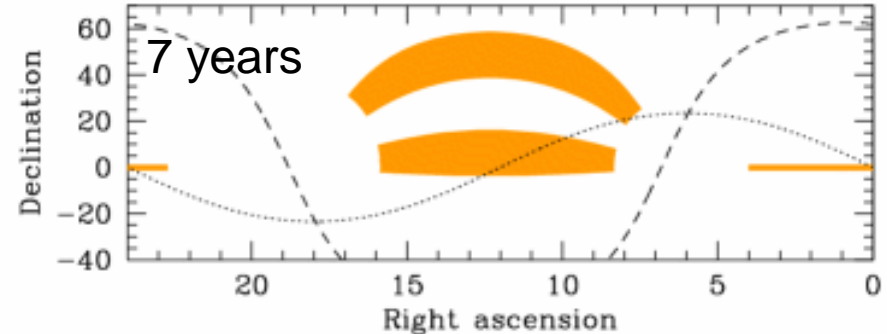
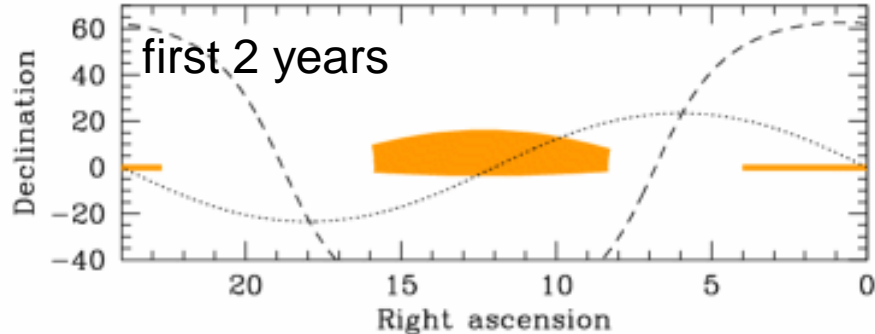
PIs: Martha Haynes,  
Riccardo Giovanelli



SDSS Stripe 82  
bisected by  
ALFALFA

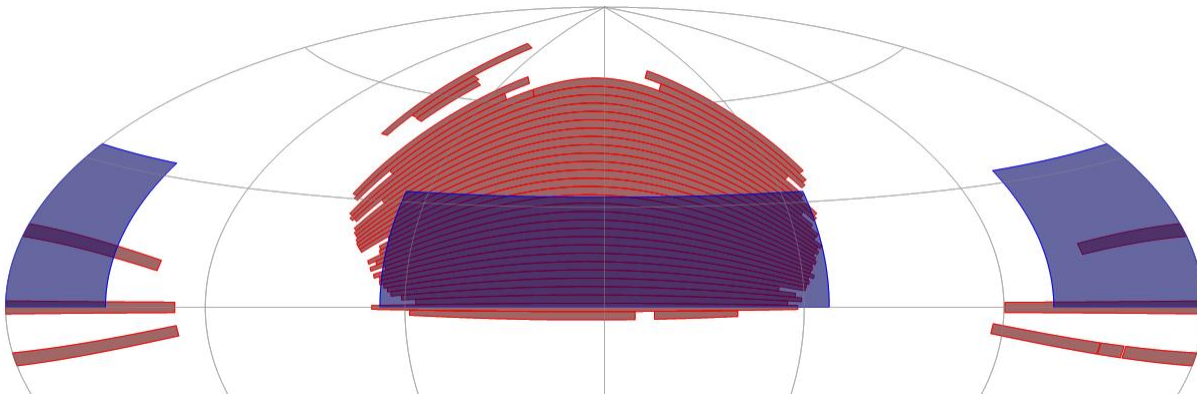
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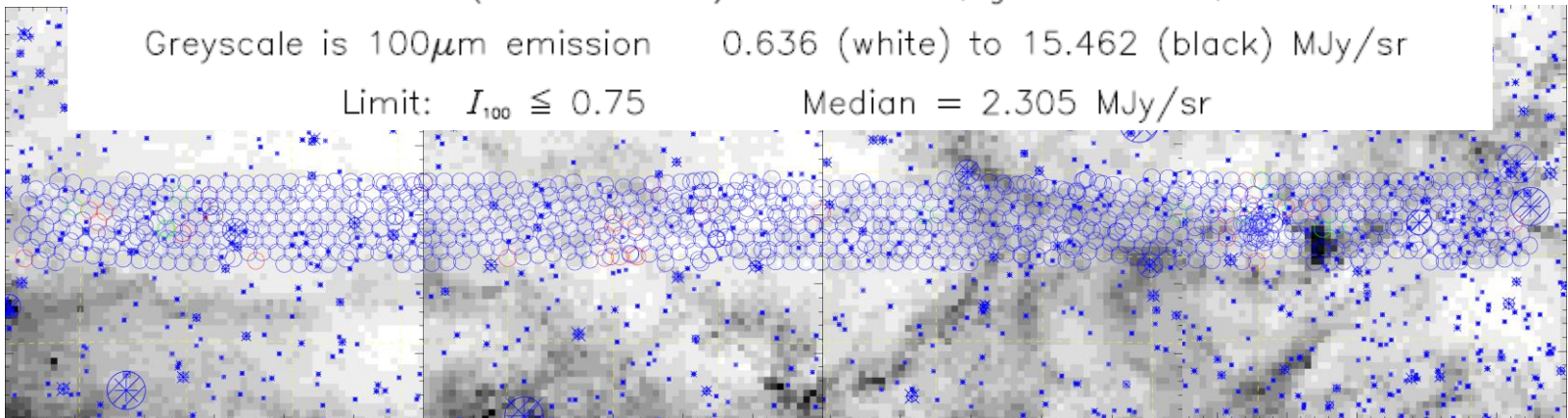
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- deep NUV imaging (last gasp of GALEX MIS!)

GALEX RESOLVE tiles (2011-01-19): blue=1500s, green=1000s, red=<1000s

Greyscale is 100 $\mu$ m emission 0.636 (white) to 15.462 (black) MJy/sr

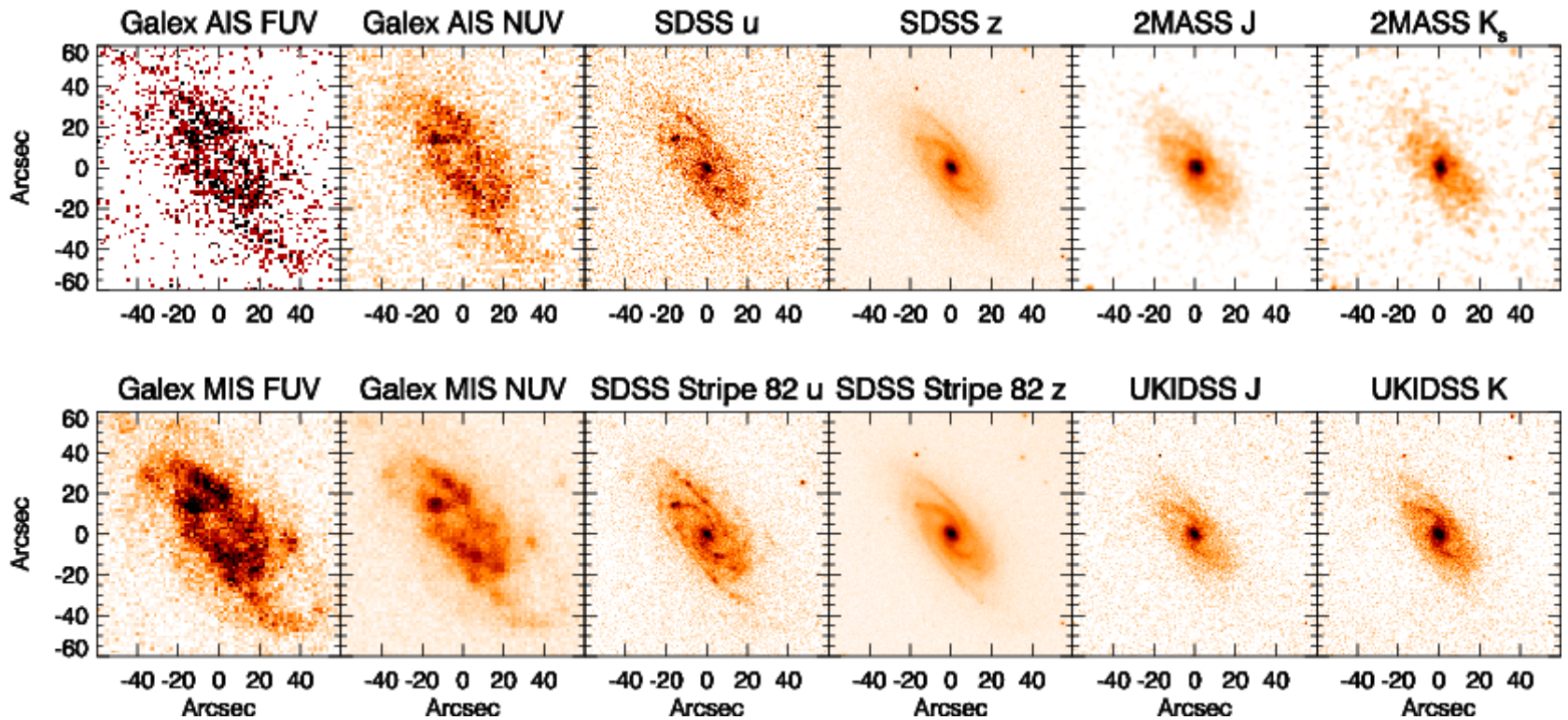
Limit:  $I_{100} \leq 0.75$

Median = 2.305 MJy/sr





# Why GALEX & UKIDSS matter



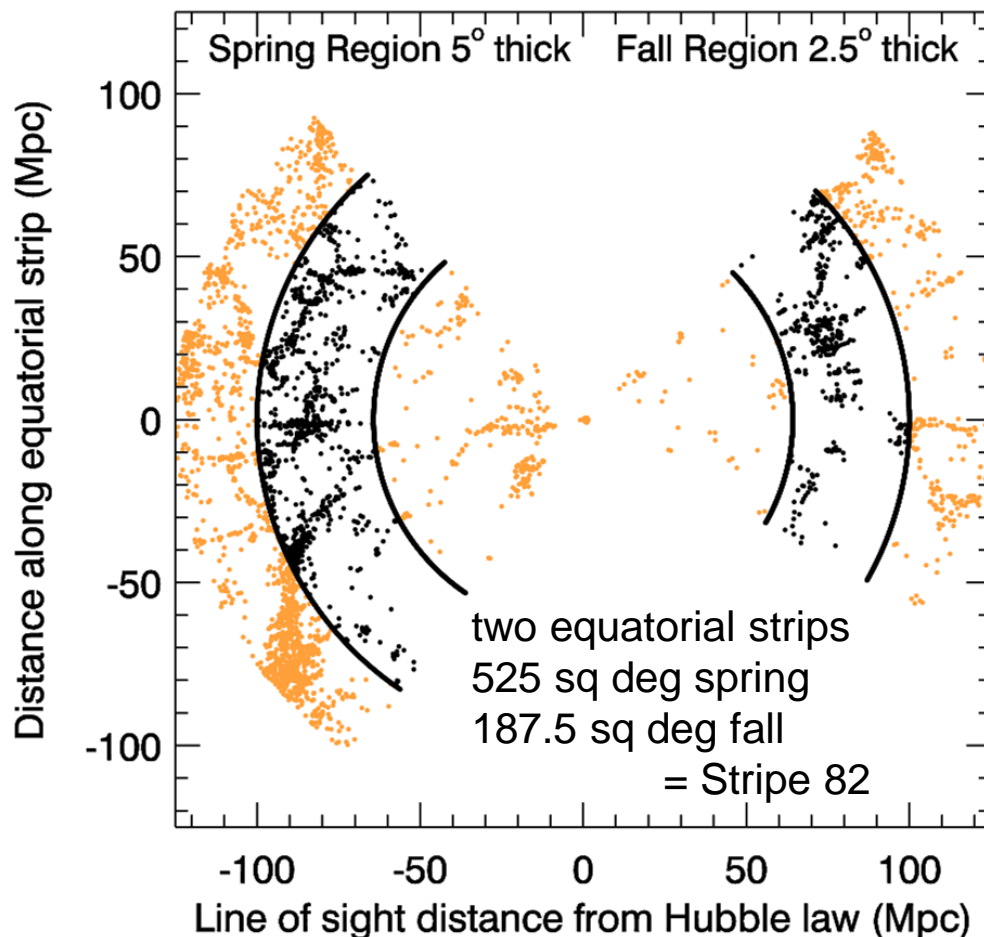
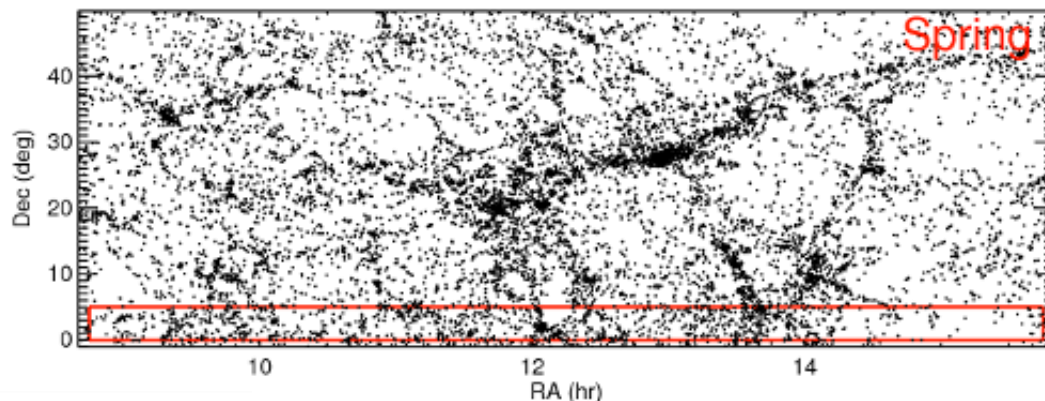
(...and why a DECAM *u* band could be useful)

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- RESOLVE: spatially resolved spectroscopy of all galaxies with  $M_r < -17.23$  from  $cz=4500-7000$  km/s

# RESOLVE:

## REsolved Spectroscopy Of a Local VolumE



- volume-limited census of dynamical, stellar, and gas masses, plus star formation & merging from galaxy clusters down to dwarf galaxies
- 53,000 cubic Mpc
- baryonic mass limit  $\sim 10^9 M_{\text{sun}}$
- $\sim 1500$  galaxies
- spatially resolved spectroscopy: high-res stellar absorption & gas emission line data

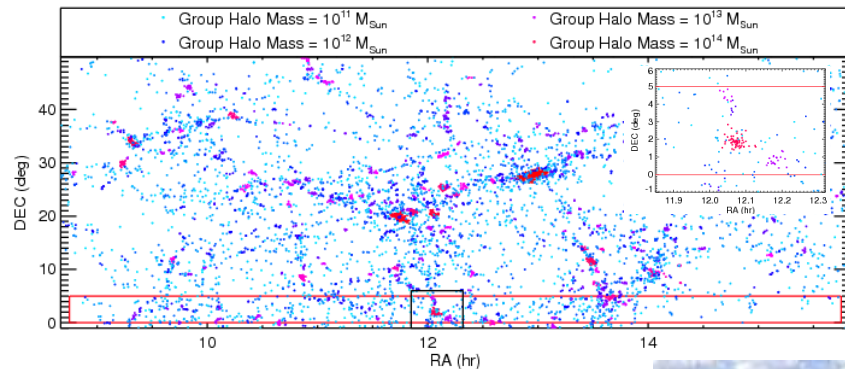




**UNC Science Team** Sheila Kannappan, Mark Norris, Katie Eckert, Amanda Moffett, David Stark, Sami Niemi, Joe Burchett



THE UNIVERSITY  
of NORTH CAROLINA  
at CHAPEL HILL



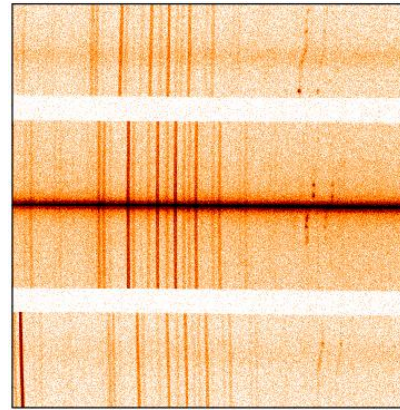
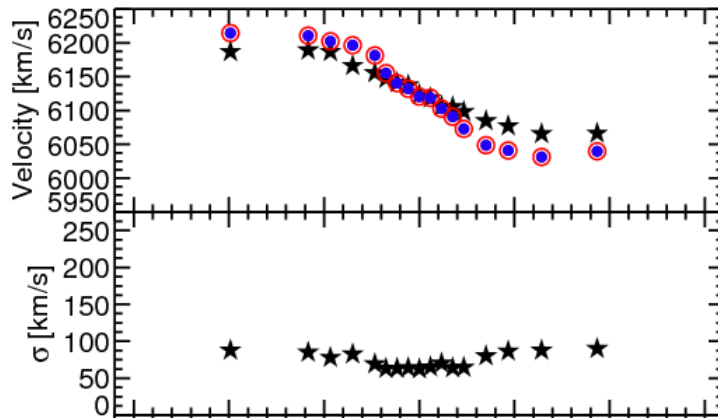
## Instrumentation

Gerald Cecil, Brad Barlow, Chris Clemens, KE, AM, SK, DH

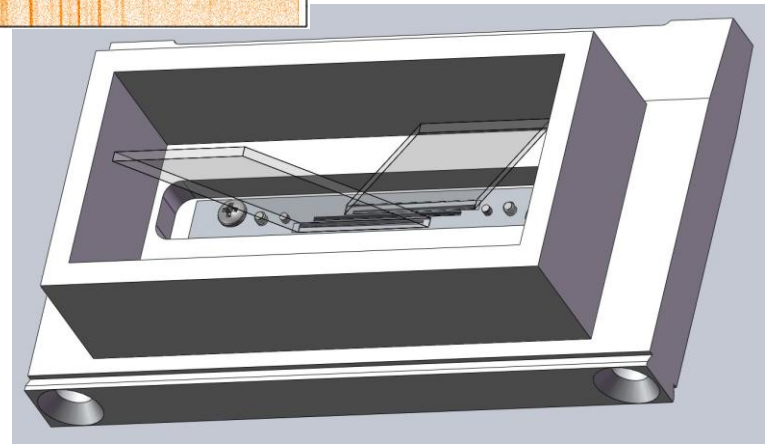
**Collaborators** Andreas Berlind, Fabrice Durier, Riccardo Giovanelli, Roberto Gonzalez, Martha Haynes, David Hendel, Sadegh Khochfar, Rachel Kuzio de Naray, Claudia Maraston, Nelson Padilla, DJ Pisano, John Salzer, Jerry Sellwood, Kristine Spekkens, Petri Vaisanen, Lisa Wei

**Outreach** Keith Starr (KIPP Pride High, Gaston NC), Teach For America - Eastern NC, Alice Churukian (UNC), SK, KE

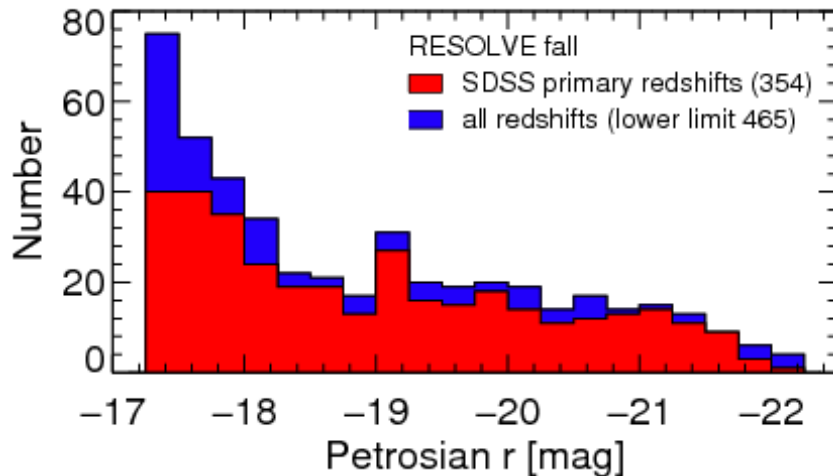
# stellar dynamics



# gas dynamics



# redshift completion effort

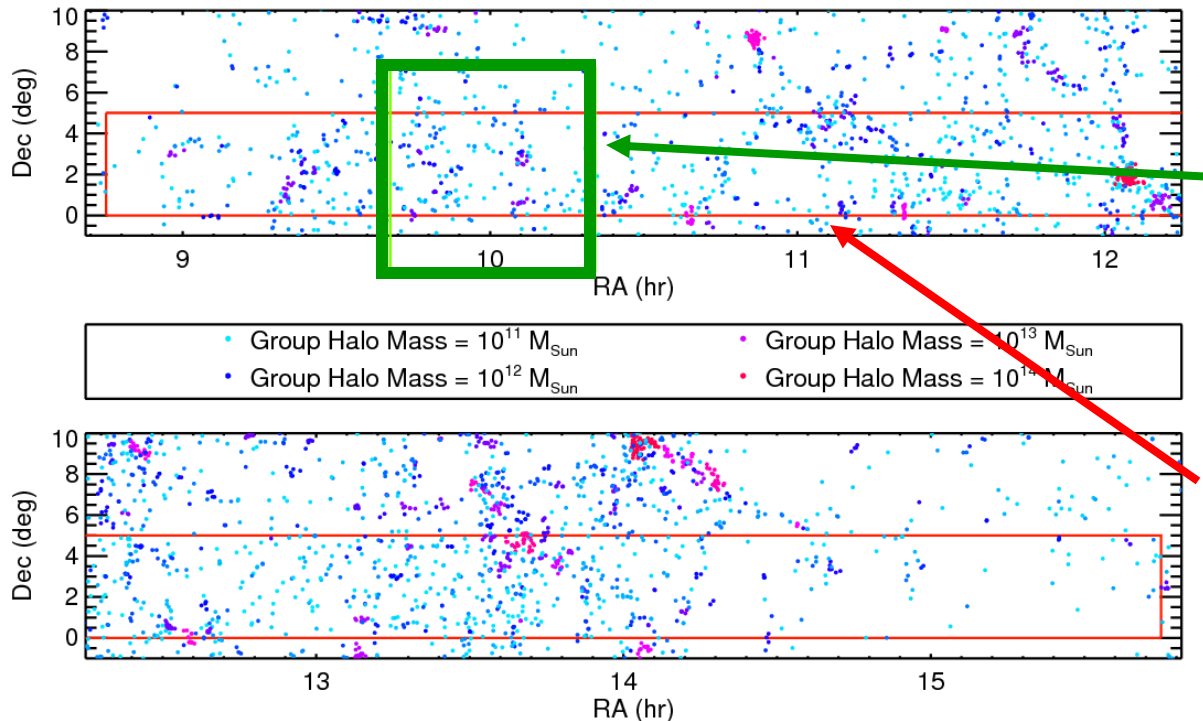


+ stellar pop and  
gas/stellar metallicity  
info coming soon...

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- embedded deep smaller-area surveys: COSMOS, equatorial fields of GAMA

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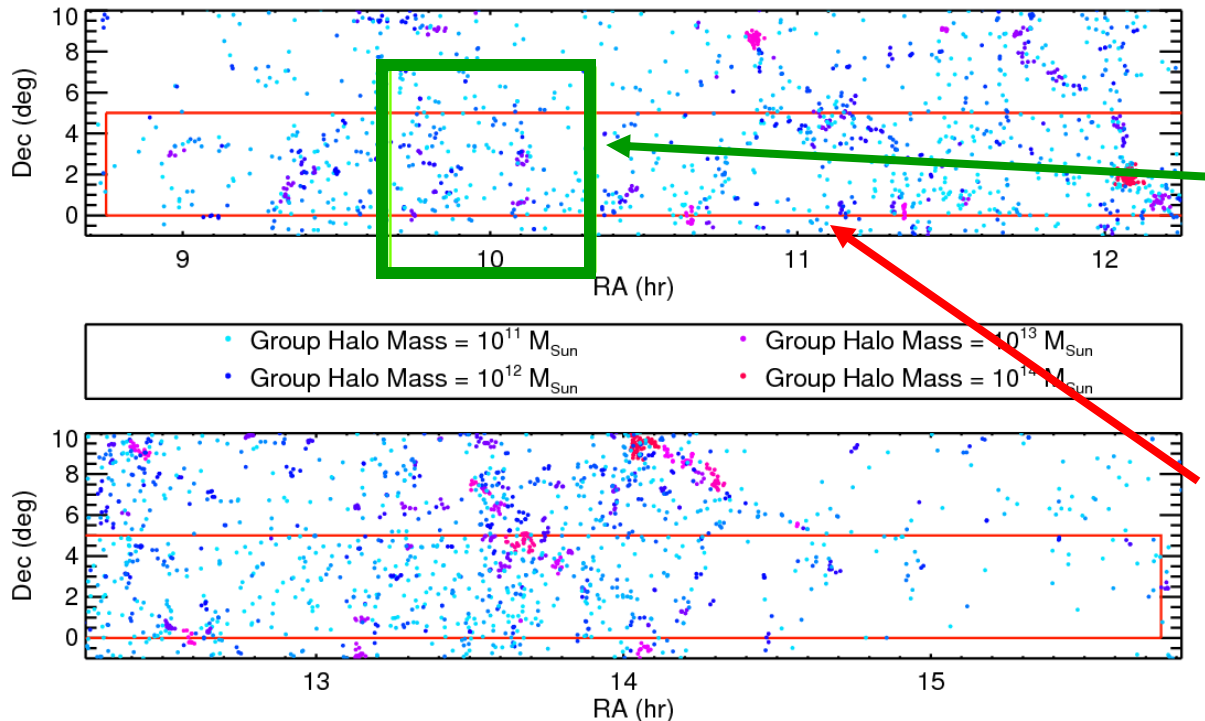


rumored DES  
coverage of  
10x10 degree  
box containing  
COSMOS

shown within  
RESOLVE strip  
(wrapped)

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*A DECAM spring legacy survey could build on this.*

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