

## Technical Page

This proposal has been submitted before.

The previous proposal number is a2812.

Proposal Type:           Regular  
 General Category:       Astronomy  
 Sub-Category:           Spectroscopy  
 Observation Category:   Extragalactic  
 Total Time Requested:   216 Hours  
 Minimum Useful Time:   1 hour

**Proposal Title:** A Volume-Limited, Complete View of HI in the  $z=0$  Galaxy Population

**ABSTRACT:**

To build the first truly complete view of the  $z=0$  galaxy population in full environmental context, we propose to measure the HI content of 141 galaxies to complete a 1100-galaxy subvolume of the volume-limited RESOLVE survey. The requested B-semester sample combined with our approved A-semester sample will provide complete statistical coverage of massive halo environments to low-density regimes including coherent large-scale filaments and walls. Unique among local surveys, RESOLVE traces evolutionary processes from dwarf to giant galaxies across well characterized, broadly representative environments. HI data are essential to core RESOLVE science goals: measuring gas fractions, the baryonic mass function, and baryonic mass-velocity relation, all as a function of galaxy properties/environment. These fundamental constraints on galaxy evolution models depend on robust and complete HI data. The resulting volume-limited HI census will have fantastic legacy value and follow-up potential.

Name	Institution	E-mail	Phone	Student
Sheila J Kannappan	University of North Carolina at Chapel Hill	sheila@physics.unc.edu	919-962-3486	no

### Remote Observing Request

- Observer will travel to AO
- Remote Observing
- In Absentia (instructions to operator)

### Instrument Setup

L-wide

**Atmospheric Observation Instruments:**

**Special Equipment or setup:** none

**RFI Considerations**

**Frequency Ranges Planned**

1385 - 1401