

### Technical Page

Proposal Type: Regular  
 General Category: Astronomy  
 Sub-Category: Spectroscopy  
 Observation Category: Extragalactic  
 Total Time Requested: 65 Hours

**Proposal Title:** HI content and dynamics of low luminosity galaxies

**ABSTRACT:**

We propose HI spectroscopy for a large, homogeneous sample of extremely low luminosity galaxies ( $-12 > Mr - 5 \log h > -15$ ) selected from the Sloan Digital Sky Survey (SDSS). The dwarfs in our sample are very faint: the most luminous galaxy is 20% the luminosity of the Small Magellanic Cloud. Because our sample has carefully measured optical images and spectra, we will explore how neutral gas and dynamical masses relate to stellar masses, star-formation rates, metallicities, and environments. The proposed observations will improve over existing data sets, because it is homogeneously selected using simple criteria and the optical properties are already well understood. We are obtaining H $\alpha$  rotation curves for a large fraction of this sample, which will complement the HI measurements of the galaxy dynamics.

Name	Institution	E-mail	Phone	Student
Michael R Blanton	New York University	blanton@nyu.edu	212-992-8791	no

**Service Observing Request**

**Remote Observing Request**

- |                                     |                            |                                     |       |
|-------------------------------------|----------------------------|-------------------------------------|-------|
| <input checked="" type="checkbox"/> | None                       | <input type="checkbox"/>            | No    |
| <input type="checkbox"/>            | All of the observing run.  | <input checked="" type="checkbox"/> | Maybe |
| <input type="checkbox"/>            | Part of the observing run. | <input type="checkbox"/>            | Yes   |
| <input type="checkbox"/>            | Queue Observing            |                                     |       |

**Instrument Setup**

L-wide

**Atmospheric Observation Instruments:**

**Special Equipment or setup:** none

**RFI Considerations**

## Frequency Ranges Planned

1400 - 1440