

### Technical Page

Proposal Type: Regular  
 General Category: Astronomy  
 Sub-Category: Spectroscopy  
 Observation Category: Extragalactic  
 Total Time Requested: 99 Hours

**Proposal Title:** Calibration of the SDSS Spectroscopic Line Width Scaling Relations

**ABSTRACT:**

The objective of this program is to understand how Sloan Digital Sky Survey linewidths at higher redshift can be tied to the known scaling relations derived at lower redshift. We propose to perform a cross-calibration of the linewidths derived from the SDSS with widths obtained both from optical H-alpha rotation curves and from global HI line profiles for a set of galaxies with  $0.05 < z < 0.09$ . Targets include 46 galaxies visible in the spring nighttime at Arecibo and contained within the Sloan Survey area for which we already have H-alpha rotation curves. If we can confirm that our H-alpha rotation curves sample the full rotation width by comparing the optical linewidths to ones derived from HI spectra, we can establish confidence in our calibration of the SDSS linewidths which themselves can then be used to trace possible variations in the spin parameter and M/L to higher redshift.

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**Service Observing Request**

**Remote Observing Request**

- None
- All of the observing run.
- Part of the observing run.
- Queue Observing

- No
- Maybe
- Yes

**Instrument Setup**

L-wide

**Atmospheric Observation Instruments:**

**Special Equipment or setup:** none

**RFI Considerations**

## **Frequency Ranges Planned**

1290-1360

This proposal requires coordination with Punta Salinas radar within the band 1222-1381 MHz..