

### Technical Page

Proposal Type: Regular  
 General Category: Astronomy  
 Sub-Category: Spectroscopy  
 Observation Category: Extragalactic  
 Total Time Requested: 15 Hours

**Proposal Title:** Hidden Molecular Gas in the Extreme Outer Disk of M33?

*ABSTRACT:*

Recent optical and UV studies have found evidence for star formation in the extreme outer disks of some nearby spiral galaxies. However, no molecular gas (as traced by CO emission) has been found in these regions, perhaps due to the low metallicity and relative lack of ambient radiation. We propose to search for molecular gas in the outer disk of M33 through 6 cm H<sub>2</sub>CO absorption against background quasars. This pilot study is an initial step toward determining whether there is a significant reservoir of yet-undetected molecular gas in the outer regions of disk galaxies.

Name	Institution	E-mail	Phone	Student
Laura B Chomiuk	University of Wisconsin-Madison	chomiuk@astro.wisc.edu	406 640 9990	G

**Service Observing Request**

**Remote Observing Request**

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

- No
- Maybe
- Yes

**Instrument Setup**

C

**Atmospheric Observation Instruments:**

**Special Equipment or setup:** none

**RFI Considerations**

**Frequency Ranges Planned**

4820-4845 MHz