

Technical Page

Proposal Type: Regular
 General Category: Astronomy
 Sub-Category: Continuum
 Observation Category: Galactic
 Total Time Requested: 13 Hours
 Minimum Useful Time: 1.5h

Proposal Title: Density Map of the W51 Giant Molecular Cloud Complex

ABSTRACT:

We aim to map the volume density across the face of the W51 molecular cloud complex in order to determine how massive star formation is progressing. W51 is the closest very massive proto-cluster in the Galaxy and is hosted in one of the largest giant molecular cloud complexes. It has been mapped extensively at many wavelengths, including in the 14.4 GHz H₂CO 2-2 line with the GBT by our group. The proposed observations will allow us to construct velocity-resolved density maps using the H₂CO densitometer method, which will uniquely allow us to assess models of gravitational collapse and turbulence.

| Name | Institution | E-mail | Phone | Student |
|---------------|------------------------|----------------------------|------------|---------|
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Remote Observing Request

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

Instrument Setup

C

Atmospheric Observation Instruments:

Special Equipment or setup: none

RFI Considerations

Frequency Ranges Planned

4818 - 4840

4582 - 4604

5414 - 5586

5114 - 5286

4664 - 4836

4544 - 4716

4412 - 4584