

Technical Page

This proposal has not been submitted before.

Proposal Type: Regular
 General Category: Astronomy
 Observation Category: Galactic
 Total Time Requested: 297 Hours
 Minimum Useful Time: 1.5 hours

Proposal Title: Tracing Dark Molecular Gas with OH Emission

ABSTRACT:

There is great interest these days in the transition between atomic and molecular interstellar gas, which should represent the very initial stages of star formation. Molecular gas means Molecular Hydrogen (H₂)—Hydrogen dominates the elemental abundance. While H₂ is normally traced by CO emission, there exists Dark Molecular Gas (DMG), which contains H₂ but is not traced by CO emission. This gas is probably in the transition state. It is best traced by OH, HCO⁺, and CO in absorption, and an unknown degree in emission. This proposal explores DMG by mapping OH in regions where DMG is known to exist from these tracers in absorption.

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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: We will use the interim correlator, which is ideal for our purposes.

RFI Considerations

Frequency Ranges Planned

1420.4 MHz

1665-1667 MHz

1720 MHz