

Technical Page

This proposal has not been submitted before.

Proposal Type: Regular
 General Category: Astronomy
 Sub-Category: Spectroscopy
 Observation Category: Galactic
 Total Time Requested: 36 Hours
 Minimum Useful Time: 2h

Proposal Title: Tracing CO-Dark Molecular Gas (DMG) Across Cloud Boundaries

ABSTRACT:

Dark Molecular Gas (DMG) is a phase of Interstellar Medium (ISM) with no HI emission or CO emission. The results from the Galactic observations of TeraHertz C+ (GOTC+) have offered strong evidence of the existence of DMG. OH and CH are two important species in the Carbon chain chemistry and the column density of CH varies linearly with H₂ column density, which becomes unique tracers to resolve the physical and chemical properties of DMG. We propose CH and OH emission toward the boundary of Perseus to derive the physical and chemical properties. The program will help us reveal the evolution of ISM and understand the transitions from atomic to molecular clouds.

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Remote Observing Request

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

Instrument Setup

L-wide S-high

Atmospheric Observation Instruments:

Special Equipment or setup: none

RFI Considerations

Frequency Ranges Planned

1592 - 1632

1645 - 1685

1647 - 1687

1700 - 1740

3243 - 3283

3315 - 3355

3329 - 3369

This proposal requires Iridium RFI protection at 1612 MHz between 10pm and 6am EST.