

Technical Page

Proposal Type: Regular
 General Category: Astronomy
 Sub-Category: Spectroscopy
 Observation Category: Extragalactic
 Total Time Requested: 13.6 Hours

Proposal Title: Further Investigating the Surprising Gas Content of Lenticular Galaxies

ABSTRACT:

Our recent survey of CO in a volume-limited sample of S0 galaxies has revealed a surprisingly uniform upper limit to the total mass of cool gas, a result that may be of great importance for understanding the origin of S0s. Stellar mass return probably accounts for the CO we see, which is centrally concentrated, but our main result is made less secure by including a number of relatively insensitive HI limits. We request time to determine HI masses for those galaxies, and make crude kinematic comparisons with our CO spectra in order to ensure a reasonable likelihood that the HI and CO are in fact associated. Our interest is in gas which is within the optical galaxy, where current models of monolithic evolution predict cool material should accumulate. We specifically avoid more widely-spread gas, since it has probably been acquired from outside.

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Service Observing Request

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

Remote Observing Request

- No
- Maybe
- Yes

Instrument Setup

L-wide

Atmospheric Observation Instruments:

Special Equipment or setup: none

RFI Considerations

Frequency Ranges Planned