

Technical Page

Proposal Type: Regular
 General Category: Astronomy
 Sub-Category: Spectroscopy
 Observation Category:
 Total Time Requested: 12 hours Hours
 Minimum Useful Time: 1-hour

Proposal Title: Follow up Observations in the Search for Molecular Oxygen at $z=5.97$

ABSTRACT:

We propose to investigate the reality of the spectral signals seen in our earlier search (proposal A2127) for redshifted molecular oxygen emission from galaxies embedded in the $z=5.97$ Gunn-Peterson trough found in the direction of the $z=6.4$ QSO SDSS J1030+0524. It has been argued that this particular QSO is located in a primordial density cusp and is among the first of the era of reionization sources to become visible. These observations test the prediction that the chemical abundance of O2 exceeds that of CO in the cosmologically earliest sources, whereas at the current epoch CO is among the most abundant diatomic molecules while O2 is undetectable.

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Remote Observing Request

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

Instrument Setup

X-high X-high

Atmospheric Observation Instruments:

Special Equipment or setup: none

RFI Considerations

Frequency Ranges Planned

8000-9000 MHz