Proposal Identification No.: A2127 Date Received: 2005-May-31_18:43:30

Technical Page

Proposal Type:	Regular
General Category:	Astronomy
Sub-Category:	Spectroscopy
Observation Category:	Extragalactic
Total Time Requested:	7.5 Hours

Proposal Title: Search for Molecular Oxygen in the z=6.28 QSO SDSS J1030+0524

ABSTRACT:

We propose to search for redshifted molecular oxygen emission toward the z=6.28 QSO SDSS J1030+0524, an object which has been argued to be located in a primordial density cusp and appears from its Gunn-Peterson absorption trough to among the first of the era of reionization sources. These observations will 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.

Name	Institution	E-mail	Phone	Student
Robert L Brown	NAIC	rbrown@astro.cornell.edu	602 255-7578	no

Service Observing Request

- [X] None
- [ ] All of the observing run.
- [ ] Part of the observing run.
- [ ] Queue Observing

Remot e Observing Request

- [X] No
- [ ] Maybe
- [ ] Yes

Instrument Setup

X-high

Atmospheric Observation Instruments:

Special Equipment or setup: none

RFI Considerations

Frequency Ranges Planned