

## Technical Page

Proposal Type: Regular  
 General Category: Astronomy  
 Sub-Category: Spectroscopy  
 Observation Category: Extragalactic  
 Total Time Requested: 40 Hours

**Proposal Title:** A Search for High-z Water Vapor Masers in Obscured AGNs

**ABSTRACT:**

We propose conducting a search for  $H_2O$  masers in a sample of 35 AGNs within the redshift range 1.2 – 4.5. The sample is chosen such that the nuclear disk/torus in these sources are viewed edge-on, as necessary for observing maser emission. Our search will reach sensitivity levels of about an order of magnitude deeper than previous (unsuccessful) searches. Detections of such high-z masers would permit the testing of AGN models, provide an independent calibration of the extragalactic distance scale, and constrain both the Hubble constant and the cosmological constant.

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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**

C X-high

**Atmospheric Observation Instruments:**

**Special Equipment or setup:** none

**RFI Considerations**

**Frequency Ranges Planned**

4 - 10 GHz