

## Technical Page

Proposal Type: Regular  
 General Category: Astronomy  
 Sub-Category: Spectroscopy  
 Observation Category: Extragalactic  
 Total Time Requested: 200 Hours

**Proposal Title:** A Search for OH Megamasers in the PSCz Catalog at  $0.1 < z < 0.45$

**ABSTRACT:**

We propose to conduct a targeted search for OH megamasers (OHMs) in the redshift range  $0.1 \leq z \leq 0.45$ . 296 candidates have been selected from the flux-limited *IRAS* Point Source Catalog redshift survey (PSCz) of Saunders *et al* (1999). We request an allotment of 200 hours in 2 to 3 installments to use the L-wide Gregorian receiver to search for the redshifted 1667 MHz line emission of OHMs. We expect to discover roughly 50 OHMs in this survey, based on a preliminary success rate of 1 in 6. This would double the number of known OHMs, and increase those at  $z > 0.1$  by a factor of 6. This survey will (i) provide a flux-limited measure of the OH luminosity function which can be calibrated to the low-redshift galaxy merger rate, and (ii) provide much-enhanced sample of OH megamasers for the study of their environments, engines, lifetimes, and structure.

Name	Institution	E-mail	Phone	Student
Jeremy K Darling	Cornell University	darling@astrosun.tn.cornell.edu	607 255 6472	G

### Instrument Setup

L-wide

**Atmospheric Optical Instruments:**

**Special Equipment or setup:** none

### RFI Considerations

### Frequency Ranges Planned

1150-1515

This proposal requires coordination with Punta Salinas radar within the band 1222-1381 MHz..

This proposal requires coordination with GPS L3 at 1381 MHz.