

## Technical Page

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

**Proposal Title:** Are OH Megamasers Produced Exclusively in Mergers?

*ABSTRACT:*

We propose to investigate the types of environments which produce OH megamasers (OHMs) by conducting a small search for OHM emission from FIR-faint AGN. We intend to disentangle the influence of AGN and merger activity on the formation of OH megamasers by searching for them in environments which do not display any evidence of ongoing merger activity. To maximize column density, we choose Seyfert type 2 AGN for the study, as they are thought to be AGN viewed “edge-on” with respect to the circumnuclear torus in the standard AGN model. Selection of Sey 2 at low redshift ( $z < 0.05$ ) which are undetected in the *IRAS* PSC and FSC places a strong constraint on ongoing merger activity. A sample of 30 FIR-faint Sey 2 is adequate to both (i) provide a meaningful upper limit on non-merger OHM contamination of blind OHM surveys, and (ii) provide a reasonable probability of OHM detection if AGN have a significant influence on OHM activity. We request 40 hours of observing time on the L-wide receiver for this study.

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**

1588-1667

This proposal requires Iridium RFI protection at 1612 MHz between 10pm and 6am EST.