

## Technical Page

Proposal Type: Regular  
 General Category: Astronomy  
 Sub-Category: Spectroscopy  
 Observation Category: Extragalactic  
 Total Time Requested: 24 Hours  
 Minimum Useful Time: 2 hours

**Proposal Title:** Magnetic Fields in ULIRGs, Outside of OH Megamasers

**ABSTRACT:**

The high gas pressures and energy densities in Ultraluminous Infrared Galaxies (ULIRGs) lead to expected field strengths in the milliGauss range for their general interstellar medium. We have previously measured magnetic field strengths of typically several milliGauss in OH Megamasers (OHMs), which are associated with ULIRGs. In particular, the OHMs in two ULIRGs—III Zw 35 and Arp 220—have measured field strengths that range up to 3.7 and 7.8 milliGauss, respectively. These two ULIRGs exhibit 6 GHz OH lines in absorption; these absorption lines sample the interstellar gas OUTSIDE of the OHMs. We propose to observe Zeeman splitting in these absorption lines with the goal of comparing the field inside the OHMs with that in the ambient interstellar medium in which the OHMs are embedded.

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### Remote Observing Request

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

### Instrument Setup

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### Atmospheric Observation Instruments:

**Special Equipment or setup:** none

### RFI Considerations

## Frequency Ranges Planned

5.87 - 5.94 GHz