**Technical Page**

Proposal Type: Large  
General Category: Astronomy  
Sub-Category: Spectroscopy  
Observation Category: Galactic  
Total Time Requested: 500 Hours

**Proposal Title:** A Crucial Test of the Role of Magnetic Fields in Star Formation  

**ABSTRACT:**

In this large proposal, we request 500 hours of telescope time to intensively study the Zeeman effect in 1665 and 1667 MHz OH emission lines from molecular cloud cores. The principal goal of this study is to determine whether or not field strengths in molecular cores are high enough to control their evolution as ambipolar diffusion (APD) models predict. The Arecibo telescope, with its small beam, low L-band noise temperature and low instrumental polarization offers the only realistic possibility to settle this crucial question of star formation theory.

<table>
<thead>
<tr>
<th>Name</th>
<th>Institution</th>
<th>E-mail</th>
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<th>Student</th>
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<tbody>
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</tbody>
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I NA want to do remote observing.

**Instrument Setup**

L-wide

**Atmospheric Optical Instruments:**

**Special Equipment or setup:** none

**RFI Considerations**

**Frequency Ranges Planned**

1665 - 1668