

## Technical Page

This proposal has not been submitted before.

Proposal Type: Short  
 General Category: Astronomy  
 Sub-Category: Spectroscopy  
 Observation Category: Galactic  
 Total Time Requested: 1.5 Hours  
 Minimum Useful Time: 1h

**Proposal Title:** Photometry of H<sub>2</sub>CO Masers in Star Forming Regions

*ABSTRACT:*

We request Arecibo Telescope time to conduct short (1.5 h total) observations of two H<sub>2</sub>CO maser regions (G32.74-0.07 and IRAS18566+0408) to characterize their variability. IRAS18566+0408 has been studied in detail by our group, it is the only high-mass star forming region known to show periodic maser flares of three different molecular species. The periodic flares in this object may be tracing the orbital properties of a deeply embedded binary system. The H<sub>2</sub>CO maser in G32.74-0.07 was detected with Arecibo in 2014, and the observations proposed here will complement VLA data we obtained of this source. The H<sub>2</sub>CO maser in G32.74-0.07 is a single narrow line, thus, the characterization of the variability will not be affected by line overlap of multiple maser velocity components. We will observe IRAS18566+0408 for system checking and also to continue our monitoring of the maser in this region.

Name	Institution	E-mail	Phone	Student
Esteban D. Araya	Western Illinois University	ed-araya@wiu.edu	309 318 9134	no

### Remote Observing Request

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

### Instrument Setup

C

**Atmospheric Observation Instruments:**

**Special Equipment or setup:** none

**RFI Considerations**

**Frequency Ranges Planned**

4820-4840