

## 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: 1.5h

**Proposal Title:** Assessing the Variability of the OH Maser in CRL 618

*ABSTRACT:*

The study of the evolution of late type stars from AGB to the planetary nebula phase is an active area of research in stellar astrophysics, particularly on how bipolar structures are developed. CRL 618 is a prime example of a pre-planetary nebula with bipolar mass loss, thus, an excellent candidate to study this type of objects. Using the Arecibo Telescope, we detected a 4.765 GHz OH maser in this region (the first detection of this transition in a late-type stellar object), and follow up observations with Arecibo showed that the maser is variable. We are in the process of writing a manuscript about the OH maser in this object, however, we require another observing epoch to better assess the variability properties of this maser line. In this short proposal, we request 1.5 hours of telescope time to re-observe the 4.765 OH maser in CRL 618.

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**

4760 - 4770