

Technical Page

Proposal Type: Short
 General Category: Astronomy
 Sub-Category: Spectroscopy
 Observation Category: Extragalactic
 Total Time Requested: 3 Hours
 Minimum Useful Time:

Proposal Title: HI and OH emission from ULIRG IRAS 23327+2913

ABSTRACT:

We request observing time to study the newly discovered, weak, OH megamaser and HI line emission from the ULIRG IRAS 23327+2913. Contrary to advanced-merger ULIRGs such as Arp 220, IRAS 23327+2913 is a system of two interacting galaxies separated by 0.2 arcmin. While its northern component is disturbed, the southern one seems to be a normal, barred-spiral, galaxy. The proposed observations will be carried out simultaneously at the red-shifted frequencies of the OH 18 cm mainline and the HI 21 cm transitions, to achieve a higher S/N ratio, and better study the various HI and OH spectral features. By using a wider bandwidth, the observations will also allow us to investigate the wide red- and blue-shifted features of the OH megamaser emission, which were detected at about 3 sigma. The Arecibo telescope, being the most sensitive in the world, is the only instrument that can enable us to carry out follow-up observations on these weak HI and OH detections discovered by the 305-m telescope itself.

| Name | Institution | E-mail | Phone | Student |
|------------------|--------------------------|-------------------|--------------------|---------|
| Emmanuel Momjian | NAIC-Arecibo Observatory | emomjian@naic.edu | 787-878-2612 x 251 | no |

Remote Observing Request

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

Instrument Setup

L-wide

Atmospheric Observation Instruments:

Special Equipment or setup: none

RFI Considerations

Frequency Ranges Planned

1275 - 1520

This proposal requires coordination with Punta Salinas radar within the band 1222-1381 MHz..