

Technical Page

This proposal has not been submitted before.

Proposal Type: Short
 General Category: Astronomy
 Sub-Category: Continuum
 Observation Category: AGN
 Total Time Requested: 3 Hours
 Minimum Useful Time: 1

Proposal Title: Revealing the Molecular Contents and Correcting the Redshift of 4C15.05

ABSTRACT:

Blazars are unique Active Galactic Nuclei with powerful radio jets along the line of sight between observer and object. These jets can influence the host galaxy, adding kinetic energy and driving material out of the galaxy, as well as exciting emission lines. The host galaxy may in turn determine the type of AGN that is formed in the nuclear region. The blazar 4C15.05 appears to have an incorrect redshift extensively used in the literature—archival Arecibo data HI data confirms an earlier (but less sensitive) determination of $z=0.833$ instead of the $z=0.405$ that is being used. We request additional telescope time to explore excited OH, H₂CO, and other molecular lines to a) confirm the redshift determination and b) to characterize the molecular contents of the blazar’s host galaxy, which may inform on the interaction between host and AGN.

Name	Institution	E-mail	Phone	Student
Kristen M Jones	Arecibo Observatory	kjones@naic.edu	6082133672	no

Remote Observing Request

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

Instrument Setup

S-low

Atmospheric Observation Instruments:

Special Equipment or setup: none

RFI Considerations

Frequency Ranges Planned

2400-2800