

Technical Page

This proposal has not been submitted before.

Proposal Type: Regular
 General Category: Astronomy
 Sub-Category: Continuum
 Observation Category: Extragalactic
 Total Time Requested: 40 Hours
 Minimum Useful Time: 1.5

Proposal Title: Characterizing Quasar Host Densities using Formaldehyde

ABSTRACT:

Quasars are the most luminous SMBH-powered structures known, and provide a unique means for probing the specific role of an active nucleus in the formation and evolution of galaxies throughout cosmic history. The study of host galaxies of quasars—the immediate environment in which they are found—is therefore essential. Host galaxies of quasars are challenging to study due to the intrinsic luminosity of the AGN, the relative dimness of the host, and, typically, the great distance of most quasars. Formaldehyde (H₂CO) has been identified in starburst galaxies as a means for tracing the density of gas, and in principle is relevant to non-starburst dominated sources as well. We propose to use the Arecibo Observatory’s 305m telescope to explore the absorption and emission characteristics of formaldehyde in a sample of obscured quasars, as a means of exploring their host galaxy properties.

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

C S-low S-high

Atmospheric Observation Instruments:

Special Equipment or setup: none

RFI Considerations

Frequency Ranges Planned

This proposal requires Iridium RFI protection at 1612 MHz between 10pm and 6am EST.