

## Technical Page

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

**Proposal Title:** H I 21 cm Search for a Ly alpha Absorbing Galaxy

**ABSTRACT:**

We request observing time on the Arecibo Radio Telescope to look for the HI emission spectrum of a nearby Lyman-alpha-dense galaxy discovered recently with the Hubble Space Telescope. The Lyman alpha is detected in absorption toward the background, optically bright, radio-quiet QSO PG 1216+069. Optically, the absorbing galaxy will be very hard to detect, due to the brightness of the background QSO. However, detecting HI in emission from this foreground galaxy is very likely, considering the high column densities measured by the HST observations, and the radio-quiet nature of the background quasar, which has a less than 2 mJy continuum flux density at 1.4 GHz. The detection of HI will provide us with a gas mass and dynamical mass from the measured velocity width.

Name	Institution	E-mail	Phone	Student
John Stocke	U. Colorado	stocke@hyades.colorado.edu	(303) 492-8915	no

**Service Observing Request**

- None
- All of the observing run.
- Part of the observing run.
- Queue Observing

**Remote Observing Request**

- No
- Maybe
- Yes

**Instrument Setup**

L-wide

**Atmospheric Observation Instruments:**

**Special Equipment or setup:** none

**RFI Considerations**

**Frequency Ranges Planned**

1408-1415 MHz