

Technical Page

Proposal Type: Regular
 General Category: Astronomy
 Sub-Category: Spectroscopy
 Observation Category: Extragalactic
 Total Time Requested: 23 Hours

Proposal Title: Extended Atomic Hydrogen in the Leo Triplet

ABSTRACT:

We propose to obtain the first complete, Nyquist-sampled, HI map of the Leo Triplet, including most of the extended HI gas linking this remarkable interacting triple system. This study will take advantage of the improved capabilities of the Arecibo Observatory, reaching a 5σ sensitivity limit of $\sim 2 \times 10^6 M_{\odot}$ per beam over a sky area of $2.5^{\circ} \times 1.25^{\circ}$ encompassing the extended HI distribution. This study will be complemented by high resolution HI observations to be obtained at the VLA, scheduled wide-field XMM-Newton X-ray data, and high resolution CO maps of two members of the Triplet; NGC3628 and NGC3627. This database will allow us to study: 1) the large scale kinematics and the extent of the tidal tails, 2) the possible connection to Lyman Alpha absorbers at large redshift 3) the relationship between molecular and atomic gas, and 4) the high energy phenomena occurring in the system and their interaction with the galactic envelopes.

Name	Institution	E-mail	Phone	Student
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I do NOT want to do remote observing.

Instrument Setup

L-narrow

Atmospheric Optical Instruments:

Special Equipment or setup: none

RFI Considerations

Frequency Ranges Planned