

Technical Page

Proposal Type: Regular
 General Category: Astronomy
 Sub-Category: Spectroscopy
 Observation Category: Extragalactic
 Total Time Requested: 64 Hours

Proposal Title: HI-rich Dwarf Galaxies and HI Clouds without Optical Counterparts in the Hercules Cluster

ABSTRACT:

Our project concerns two types of objects found in a VLA HI survey of the Hercules Cluster: 22 gas-rich dwarf galaxies and 10 HI clouds without optical counterparts. The sensitivity of the Arecibo telescope is required for a follow-up HI study. We will combine the HI data with our deep optical CCD images and spectroscopic data. The Arecibo data will allow a precise determination of the HI profile parameters of the dwarf galaxies in the cluster, which can be used to determine, e.g., the HI deficiency parameter and dynamical properties of the sample. They may also be used to identify detached Tidal Dwarf Galaxies. The HI sources without optical counterparts on our deep CCD images were detected at the limit of the VLA sensitivity. If confirmed at Arecibo, their precise velocity will be determined and compared to that of nearby spirals, in order to determine their origin.

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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

1360-1375

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