

Technical Page

Proposal Type: Regular
 General Category: Astronomy
 Sub-Category: Spectroscopy
 Observation Category: Extragalactic
 Total Time Requested: 36 Hours

Proposal Title: The Effect of the Cluster Environment on Galaxy Evolution in the Pegasus I Cluster

ABSTRACT:

The Pegasus cluster offers a most unusual environment in which to study the star formation histories of its members. Several galaxies exhibit signs of recently completed or ongoing star formation, although what triggered these episodes is not clear. Two galaxies are of special significance. Ground-based imaging has shown NGC7648 to have morphological features characteristic of a tidal interaction. NGC7604 has an offset region of enhanced H α emission, and a faint arc, typical of a galaxy affected by ram pressure sweeping. This is surprising, since Pegasus is considered an environment where ram pressure stripping should not be operating. In addition, there are conflicting claims for HI depletion in other Pegasus spirals. We propose that Arecibo observations of the HI content and its distribution within these two galaxies, as well as in other spiral galaxies in Pegasus, will help clarify how the cluster environment is affecting the evolution of its member galaxies.

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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-narrow

Atmospheric Observation Instruments:

Special Equipment or setup: none

RFI Considerations

Frequency Ranges Planned

1381-1405

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

This proposal requires coordination with GPS L3 at 1381 MHz.