Technical Page

Proposal Type: Regular
General Category: Astronomy
Sub-Category: Spectroscopy
Observation Category: Extragalactic
Total Time Requested: 120 Hours
Minimum Useful Time: 3 hours

Proposal Title: Study of the Evolution of the Mass-to-light Ratio of Galaxies to z<0.3

ABSTRACT:

The objective of this program is to study the evolution of the zero point of the Tully-Fisher relation (TFR) for galaxies at intermediate redshifts, 0.2<z<0.3. Contrarily to studies based on optical spectroscopy (which yield conflicting results), HI observations allow us to perform a direct comparison with the local TFR that is technique independent. Galaxies at redshift up to 0.25 have already been successfully detected at Arecibo by our group. However, the detections already obtained span an interval of one magnitude only in the TF plot. In order to complete this program, we need to extend the magnitude range of our sample. We also wish to set a new landmark for the highest redshift galaxy that has been detected at Arecibo in HI emission. We have carefully selected a set of targets from the Sloan Digital Sky Survey to achieve both these goals.

<table>
<thead>
<tr>
<th>Name</th>
<th>Institution</th>
<th>E-mail</th>
<th>Phone</th>
<th>Student</th>
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<tbody>
<tr>
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<td>no</td>
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</tbody>
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Remote Observing Request

- [X] Observer will travel to AO
- [ ] Remote Observing
- [ ] In Absentia (instructions to operator)

Instrument Setup

- L-wide

Atmospheric Observation Instruments:

Special Equipment or setup: none

RFI Considerations
Frequency Ranges Planned

1080 - 1200

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