This proposal has not been submitted before.

Proposal Type: Regular
General Category: Astronomy
Sub-Category: Spectroscopy
Observation Category: Extragalactic
Total Time Requested: 9 Hours
Minimum Useful Time: 90

Proposal Title: Connecting HI Disks in Dwarf Galaxies to Their Circumgalactic Medium

ABSTRACT:

We request a total of 29 hours to observe 22 dwarf galaxies (LogM* = 8-10, z=0.011-0.06) from the HST COS-Dwarf sample that can be observed from the Arecibo Observatory. There are two motivations for these observations. First, by combining information about HI in the galaxy disk with information about the gas in the surrounding halos (COS-Dwarf), we will be able to probe the baryon cycle in these galaxies. Second, this sample when combined with the GALEX Arecibo SDSS Survey (SDSS) and its subsample that is also being observed with COS (COS-GASS) would trace the variations of the gas flow process (like cold flows and momentum/energy driven outflows) over more than 3 orders of magnitude in stellar masses. With a modest investment of 29 hours, we would be able to expand on the conclusions derived from GASS, COS-GASS, and COS-Dwarf. These data would take advantage of the existing data and enhance our understanding of the baryon cycle significantly.

<table>
<thead>
<tr>
<th>Name</th>
<th>Institution</th>
<th>E-mail</th>
<th>Phone</th>
<th>Student</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sanchayeeta Borthakur</td>
<td>Johns Hopkins University</td>
<td><a href="mailto:sanch@pha.jhu.edu">sanch@pha.jhu.edu</a></td>
<td>410 516 4738</td>
<td>no</td>
</tr>
</tbody>
</table>

Remote Observing Request

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

Instrument Setup

L-wide

Atmospheric Observation Instruments:
Special Equipment or setup: none

RFI Considerations

Frequency Ranges Planned

1337-1406.

This proposal requires coordination with Punta Salinas radar within the band 1222-1381 MHz.
This proposal requires coordination with GPS L3 at 1381 MHz.