

Technical Page

This proposal has not been submitted before.

Proposal Type: Regular
 General Category: Astronomy
 Sub-Category: Spectroscopy
 Observation Category: Extragalactic
 Total Time Requested: 32 Hours
 Minimum Useful Time: 90

Proposal Title: Gas depletion in galaxy mergers

ABSTRACT:

Simulations predict that galaxy mergers have a profound impact on star formation, chemistry, nuclear accretion and morphologies. These predictions are all well supported by observational evidence. What is currently unknown, however, is how the final atomic gas fraction is affected by the interaction: is the majority of the gas reservoir depleted (either through consumption or stripping), or is there sufficient HI left for star formation to continue post-merger? We propose to observe 56 post-merger galaxies at $z < 0.04$ to the same gas fraction limit as the GASS survey. Combined with a further 58 archival HI measurements in post-mergers, our simulations indicate that the final sample will be sufficient to detect an HI gas fraction depletion of 0.1 dex, using the GASS survey as a control sample. These observations will therefore directly test galaxy merger simulations, which predict a typical gas fraction depletion of 0.1 dex.

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Remote Observing Request

- 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

1365-1399

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

This proposal requires coordination with GPS L3 at 1381 MHz.