

Technical Page

This proposal has not been submitted before.

Proposal Type: Regular
 General Category: Astronomy
 Sub-Category: Spectroscopy
 Observation Category: Extragalactic
 Total Time Requested: 36 Hours
 Minimum Useful Time: 30 mins (5 on-source, 15 slew, 10 off/cal)

Proposal Title: HI in dusty early-type galaxies: probing the minor merger process

ABSTRACT:

We propose an HI study of 13 nearby, massive early-type galaxies with prominent dust lanes, systems that are considered to be remnants of recent minor mergers between spheroidal early-type galaxies and gas-rich dwarfs. Combined with our existing UV to far-infrared analysis of these objects using GALEX, SDSS, UKIDSS, WISE and Herschel-ATLAS surveys, as well as the recently obtained IRAM CO data, we will be able to estimate: (1) the gas masses involved in minor mergers; (2) the gas-to-dust ratios of the accreted satellites; (3) star formation efficiencies in minor mergers; and (4) the breakdown between atomic and molecular gas in such interactions. HI characterisation is an important step in our aim to produce a detailed empirical description of the role of gas in the minor merger process, which is a significant driver of cosmic star formation and AGN activity at late epochs, but is currently poorly understood.

Name	Institution	E-mail	Phone	Student
James R Allison	University of Sydney	jra@physics.usyd.edu.au	+61 293518699	no

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

1300-1400

1485-1685

This proposal requires Iridium RFI protection at 1612 MHz between 10pm and 6am EST.

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

This proposal requires coordination with GPS L3 at 1381 MHz.