Technical Page

Proposal Type:	Regular
General Category:	Astronomy
Sub-Category:	Spectroscopy
Observation Category:	Extragalactic
Total Time Requested:	15 Hours

Proposal Title: Investigating the ISM in SCUBA selected sources

ABSTRACT:

A number of sources in our SCUBA blank field survey have been identified with low redshift spiral galaxies from z=0.074 -0.176. This is unusual for submm selected objects - generally believed to be mergers at high redshifts. We have used IRAM to detect CO(1-0) in these objects and find unusually low ratios of molecular gas mass to submm luminosity, implying a gas/dust ratio $\tilde{2}0$. We wish to measure the HI content of these galaxies to see if the HI/H2 ratio is higher than in the IR luminous objects currently used as templates for these SCUBA sources. This study will, for the first time, shed light on the gas and dust properties of relatively nearby galaxies which have been selected at 850μm (i.e. contain large quantities of cold dust), no other sample of low redshift galaxies exists which has been selected in this way. Understanding the nature of these objects will be important for forthcoming instruments such as BLAST and Herschel, which should detect many more of them with their larger area surveys.

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Service Observing Request

- [X] None
- [ ] All of the observing run.
- [ ] Part of the observing run.
- [ ] Queue Observing

Remot e Observing Request

- [ ] No
- [X] Maybe
- [ ] Yes

Instrument Setup

L-wide

Atmospheric Observation Instruments:

Special Equipment or setup: none

RFI Considerations

Frequency Ranges Planned

1310 - 1335
1290 - 1315
1195 - 1220

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