

Technical Page

Proposal Type: Regular
 General Category: Astronomy
 Sub-Category: Spectroscopy
 Observation Category: Extragalactic
 Total Time Requested: 34 Hours
 Minimum Useful Time: 1hour

Proposal Title: Determining star formation law in local galaxies with Arecibo

ABSTRACT:

We propose to observe HCCCN 1-0 and 4 hydrogen radio recombination lines (RRLs) with X band receiver at Arecibo toward a sample of 13 galaxies with a wide range of infrared luminosity to study star formation law in local galaxies. HCCCN 1-0 can trace dense molecular gas, while RRLs would be the tracer of star formation rate in these galaxies. The most advantage of using HCCCN 1-0 and RRLs to study star formation law is that they are observed at the same time, which provide to cover the same region in galaxies, even if those galaxies are more extended than one beam of Arecibo, and also avoids time dependent uncertainties of telescopes. It will be an ideal project for Arecibo to study star formation law.

Name	Institution	E-mail	Phone	Student
Junzhi Wang	Nanjing University	junzhiwang@nju.edu.cn	86-2583594740	no

Remote Observing Request

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

Instrument Setup

X-high

Atmospheric Observation Instruments:

Spectrophotometer

Special Equipment or setup: none

RFI Considerations

Frequency Ranges Planned