

Technical Page

This proposal has been submitted before.

The previous proposal number is 3123.

Proposal Type: Long-term
 General Category: Astronomy
 Sub-Category: Spectroscopy
 Observation Category: Galactic
 Total Time Requested: 16 Hours
 Minimum Useful Time: 2 hours

Proposal Title: Radio Emissions from Red Dwarf Stars with Planets V

ABSTRACT:

The stellar activity of red dwarf stars, such as Proxima Centauri and Trappist-1, are of special interest due to their potential to support habitable planets around them. Planets around these stars could experience tidal locking, strong stellar magnetic fields, strong flares, and high UV and X-ray fluxes, all factors that might affect their habitability, sometimes correlated with radio emissions. We are using the Arecibo Observatory to search for quiescent and transient radio emissions from nearby red dwarf star with planets, especially those considered potentially habitable. Our main goals are to characterize the radio and magnetic environment around these stars and search for any correlations between their activity and the presence of planets. The detection of transient but strong emissions might indicate unfavorable conditions for any potentially habitable planet around them. Non-detections will be used to constrain the upper limits of their stellar activity. In our previous observa

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Remote Observing Request

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

Instrument Setup

X-band C-wide

Atmospheric Observation Instruments:

Special Equipment or setup: none

RFI Considerations

Frequency Ranges Planned