

Technical Page

Proposal Type: Regular
 General Category: Astronomy
 Sub-Category: Continuum
 Observation Category: Galactic
 Total Time Requested: 170 Hours
 Minimum Useful Time: 2 hours

Proposal Title: A continuation of the Arecibo survey of ultracool dwarfs

ABSTRACT:

We have been interested in exploring the brown dwarf - massive planet boundary using magnetic fields as a diagnostic tool. A possibility to probe magnetic fields of the coolest, lowest-mass dwarfs may shed new light on the much debated transition from brown dwarfs to planets, the associated differences in structure, and the most proper way to distinguish between these two types of objects. In addition, magnetic field detections in the coolest dwarfs indicate that they may also be detectable in hot, young, but less massive exoplanets, which would have very interesting consequences for studies of planetary habitability. Encouraged by the results of our previous surveys (detection of flares from two ultracool dwarfs), we propose to continue this program using the Arecibo telescope with the S-band "high" and C-band receivers, and the Mock spectrometer to search for flares from a list of 40 recently discovered brown dwarf targets.

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Remote Observing Request

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

Instrument Setup

C S-high

Atmospheric Observation Instruments:

Special Equipment or setup: none

RFI Considerations

Frequency Ranges Planned