Technical Page

This proposal has not been submitted before.

Proposal Type: Urgent
General Category: Astronomy
Sub-Category: Spectroscopy
Observation Category: Galactic
Total Time Requested: 23 Hours
Minimum Useful Time: 1.25 hr

Proposal Title: Coordinated Arecibo Observatory and Nancay Radio Telescope Observations of Brown Dwarfs

ABSTRACT:

Many years of attempting to detect auroral radio emissions from magnetized exoplanets has not resulted in success. However, characterizing the radio emissions from the coolest magnetized brown dwarfs offers a means to constrain the magnetic fields and behavior of exoplanets. In this proposal, we aim to conduct international, coordinated radio observations of several brown dwarfs in an effort to better describe their radio emissions at frequencies ranging from approximately 10 MHz to 5 GHz. These coordinated observations will enable several science goals such as the construction of their low-frequency radio SEDs and extended target monitoring to explore the evolution of their radio emission over several rotation periods. In addition, the instrumental capabilities across our consortium facilities will be compared and evaluated in an effort to describe and enhance their scientific return.

<table>
<thead>
<tr>
<th>Name</th>
<th>Institution</th>
<th>E-mail</th>
<th>Phone</th>
<th>Student</th>
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<tbody>
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<td>no</td>
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</tbody>
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Remote Observing Request

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

Instrument Setup

C

Atmospheric Observation Instruments:

Special Equipment or setup: C-band receiver and Mock spectrometer
RFI Considerations

Frequency Ranges Planned