

Technical Page

This proposal has not been submitted before.

Proposal Type: Regular
 General Category: Astronomy
 Sub-Category: Spectroscopy
 Observation Category: Galactic
 Total Time Requested: 36 Hours
 Minimum Useful Time: 2 hours

Proposal Title: Continuation of the timing of the periodically flaring ultracool dwarf, TVLM 513-46546

ABSTRACT:

We propose to continue timing observations of an ultracool dwarf, TVLM 513-46546, with the Arecibo telescope at 5 GHz and the Mock spectrometer, to obtain broadband, high resolution dynamic spectra of the source. Previous observations have shown that timing of the periodic flares from this star can be used to monitor the behavior of the active regions in the magnetosphere that generate the flares. They also suggest that the observed, small changes in the apparent period and phase of the flares can be related to a differential rotation of the star. However, an unambiguous characterization of this process requires long-term, systematic monitoring observations, avoiding large gaps in the data. In addition, the observed high quality dynamic spectra of the flares can be used in combination with the timing data to produce diagnostics of both the geometry of the magnetic field and the physical conditions in the magnetosphere in an unprecedented detail.

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Remote Observing Request

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

Instrument Setup

C

Atmospheric Observation Instruments:

Special Equipment or setup: none

RFI Considerations

Frequency Ranges Planned