

## Technical Page

This proposal has not been submitted before.

Proposal Type:                    Urgent  
 General Category:               Pulsars  
 Observation Category:  
 Total Time Requested:        8 Hours  
 Minimum Useful Time:        2h

**Proposal Title:** COORDINATED ARECIBO AND NuSTAR OBSERVATIONS OF THE REPEATING FAST RADIO BURST FRB 121102

*ABSTRACT:*

Fast Radio Bursts (FRBs) are a new class of astrophysical transient whose origins are currently a mystery. Early this year, we reported on the subarcsecond localization and identification of the host galaxy of the first, and to date only, repeating FRB, FRB 121102. The accurate localization of FRB 121102 allows for a search for multi-wavelength counterparts of the radio bursts at that position. Some models, notably those involving magnetars, predict hard X-ray bursts along with FRBs which may be detectable with NuSTAR. The emission of radio bursts from FRB 121102 seem to be highly clustered in time and displays active periods that last several weeks. We therefore propose for 8 hr of coordinated Arecibo telescope observations to be scheduled along with 100 ks of NuSTAR Target of Opportunity observations and 30 h of Effelsberg telescope observations to be performed in the event that FRB 121102 enters a period of radio burst activity.

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### Remote Observing Request

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

### Instrument Setup

L-wide

## **Atmospheric Observation Instruments:**

**Special Equipment or setup:** none

## **RFI Considerations**

### **Frequency Ranges Planned**

1150-1730

This proposal requires Iridium RFI protection at 1612 MHz between 10pm and 6am EST.

This proposal requires coordination with Punta Salinas radar within the band 1222-1381 MHz..

This proposal requires coordination with GPS L3 at 1381 MHz.