

## Technical Page

This proposal has not been submitted before.

Proposal Type: Regular  
 General Category: Pulsars  
 Observation Category: Extragalactic  
 Total Time Requested: 200 Hours  
 Minimum Useful Time: 45 mins

**Proposal Title:** Targeted Search for FRBs from Luminous Radio Sources in Dwarf Galaxies  
**ABSTRACT:**

The first localization of a fast radio burst has surprisingly shown it to originate from a star-forming dwarf galaxy and to be coincident with a luminous ( $7E38$  erg/s) point radio source. Such luminous radio sources are extremely rare, with fewer than 1 in 10,000 dwarf galaxies hosting one. This coincidence strongly suggests a link between these radio sources and FRBs. We have selected a nearly complete sample of 12 dwarf galaxies with luminous radio sources from the COSMOS field up to a redshift  $<0.5$ , where most FRBs seem to originate from. We propose a 200-hr targeted survey to test the hypothesis that FRBs originate from such radio sources. If the hypothesis is true, we expect to detect one FRB every 10 to 68 hours (95% confidence). If we do not detect a single burst, we can constrain fewer 40% of all FRBs to arise from these sources.

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### Remote Observing Request

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

### Instrument Setup

ALFA

### Atmospheric Observation Instruments:

**Special Equipment or setup:** none

### RFI Considerations

## Frequency Ranges Planned

1225 - 1525

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

This proposal requires coordination with GPS L3 at 1381 MHz.