

Technical Page

This proposal has not been submitted before.

Proposal Type: Director Discretionary Time
 General Category: Pulsars
 Observation Category: Extragalactic
 Total Time Requested: 6 Hours
 Minimum Useful Time: 45 min

Proposal Title: A Pilot Arecibo Search for Fast Radio Bursts Towards Known Superluminous Supernovae

ABSTRACT:

The recent localization of the repeating FRB121102 has shown that it is hosted by a dwarf galaxy at 1Gpc. At first glance, it is surprising that the first firmly established FRB host is such a puny galaxy. However, the demonstrated over-abundance of long gamma-ray bursts (LGRBs) and superluminous supernovae (SLSNe) found in similar, low-metallicity dwarf galaxies, suggests a possible evolutionary link between the FRBs/LGRBs/SLSNe. For example, are the sources of FRBs created at the time of LGRBs/SLSNe? It has been theorized that LGRBs/SLSNe could signal the birth of a millisecond magnetar, and such sources could then produce the FRB flashes we observe. We aim to test this exciting new hypothesis by performing a 6-hr pilot survey of known SLSNe visible to Arecibo.

Name	Institution	E-mail	Phone	Student
Daniele Michilli	University of Amsterdam / ASTRON	danielemichilli@gmail.com	+31 (0)630645104	G

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

4000 - 5000