

Technical Page

Proposal Type: Regular
 General Category: Pulsars
 Observation Category:
 Total Time Requested: 21.5 Hours

Proposal Title: Monitoring and Timing of RRAT Sources

ABSTRACT:

We have recently reported the discovery of a new class of Rotating RAdio Transients (RRATs), 11 objects characterized by repeated radio bursts with widths of 2 to 30 ms. While periods in the 0.4 to 7 s range have been measured from the arrival times of the individual bursts, the RRATs are not detectable through standard pulsar search techniques that rely on their time-averaged emission. We have observed two of the RRATs, J1911+00 and J1913+1333, from Arecibo, revealing burst rates roughly 16 times that measured with Parkes and allowing us to measure a period of 6.9 seconds for J1911+00. The Arecibo observations of J1913+1333 have revealed an episode of enhanced bursting activity which lasts for several minutes, a new phenomenon quite different to the isolated bursts detected with Parkes. We request additional timing/monitoring observations that will help elucidate the emission mechanism(s) at play and also enable us to make more robust estimates of the total population of these objects (almost certainly several times greater than that of the normal radio pulsars).

Name	Institution	E-mail	Phone	Student
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Service Observing Request

Remote Observing Request

- | | |
|---|--|
| <input checked="" type="checkbox"/> None
<input type="checkbox"/> All of the observing run.
<input type="checkbox"/> Part of the observing run.
<input type="checkbox"/> Queue Observing | <input checked="" type="checkbox"/> No
<input type="checkbox"/> Maybe
<input type="checkbox"/> Yes |
|---|--|

Instrument Setup

L-wide 327

Atmospheric Observation Instruments:

Special Equipment or setup: none

RFI Considerations

Frequency Ranges Planned

314-364 MHz

1125-1625 MHz

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.