

Technical Page

Proposal Type: Urgent
 General Category: Pulsars
 Observation Category:
 Total Time Requested: 6 Hours

Proposal Title: Confirmation of a radio pulsar in the Geminga source

ABSTRACT:

Since its discovery as an x-ray source the Geminga pulsar has been an enigmatic object. Numerous attempts failed to detect the pulsating periodicity of 0.237 s from this pulsar in radio. We have recently detected such a periodicity in our data at 102 MHz originating from the Geminga source. Further confidence to our detection comes from the DM of $3 \pm 1 \text{ pc/cm}^3$, which places the source within the distance of 0.16 kpc that was measured by annual parallax of Geminga optical counterpart. Previous attempts to detect this source in radio at 1400-1600 MHz might have failed due to its low flux density at these frequencies. The maximum flux density that we have detected at 102 MHz is 0.1 Jy. This gives us confidence that we can confirm the pulsar using the high sensitivity of the Arecibo telescope at 430 MHz and perhaps at 47 MHz.

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Service Observing Request

- None
- All of the observing run.
- Part of the observing run.
- Queue Observing

Remote Observing Request

- No
- Maybe
- Yes

Instrument Setup

47 MHz CH 430 MHz CH receiver

Atmospheric Observation Instruments:

Description of Observer Equipment:

Special Equipment or setup: Special setup: Software needs: Media needs:

RFI Considerations

Frequency Ranges Planned

see proposal