

## Technical Page

Proposal Type: Regular  
 General Category: Pulsars  
 Observation Category: Galactic  
 Total Time Requested: 30 Hours

**Proposal Title:** Probing the Local ISM with pulsars: the North Polar Spur and the GSH 238+00+09 superbubble

*ABSTRACT:*

We will measure the scintillation properties for a selected sample of pulsars that probe the regions toward two prominent features in the local interstellar environment: the North Polar Spur (the brightest section of radio Loop I) and GSH 238+00+09, a nearby superbubble toward  $l \approx 238^\circ$ . For the latter, we will also study a similar sample of southern objects with the Giant Metre-wave Radio Telescope. In addition, we will study a smaller sample of objects in a complementary part of the sky (Quadrant 1). These measurements, along with the existing ones, will be used to furnish a more realistic picture of the distribution of scattering plasma in the Local Interstellar Medium. We will make observations at 430 and 327 MHz, with the PSPM and possibly the WAPP. Our source list is spread over the 5–22 hr RA range, and we request a total of 30 hr of telescope time, split into multiple observing sessions.

Name	Institution	E-mail	Phone	Student
Ramesh N. D. Bhat	Arecibo Observatory	rbhat@naic.edu	787 878 2612	no

I want to do remote observing.

**Instrument Setup**

430 G                      430 CH receiver

**Atmospheric Optical Instruments:**

**Special Equipment or setup:** Several Exabyte and Mammoth tapes

**RFI Considerations**

**Frequency Ranges Planned**

425–435 (wider band if 25 or 50 MHz filters are available)  
 310–340 (for observations at 327 MHz)

This proposal requires coordination with AFTWF within the band 425-435 MHz.