

## Technical Page

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

**Proposal Title:** Pilot Studies for Arecibo Multibeam Pulsar Surveys

**ABSTRACT:**

Anticipating availability of the ALFA receiver in 2004, we propose a short campaign (30hr) allowing dual-beam observations suitable for developing RFI mitigation methods - crucial to the success of large-scale ALFA surveys. We will use two L-band systems (Gregorian + carriage house) and multiple WAPP spectrometers. With the Gregorian system, we will characterize RFI within the full 300MHz bandwidth (centered at 1375MHz) to be used in future pulsar surveys. We will mimic ALFA's 7-beam pattern, investigating detection of weak pulsars in adjacent beams. Simultaneously, with the 80-MHz bandwidth line feed, we will identify RFI to be flagged in the overlapping Gregorian data. We will characterize RFI through its signatures in the frequency-time plane and develop excision methods accordingly. We also expect to obtain science results from these tests. This work is proposed within the spirit of a "consortium" of pulsar researchers that will eventually carry out the surveys, and we expect the list of co-investigators to grow.

Name	Institution	E-mail	Phone	Student
Fernando Camilo	Columbia University	fernando@astro.columbia.edu	212 854 2540	no

**Service Observing Request**

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

**Remote Observing Request**

- No
- Maybe
- Yes

**Instrument Setup**

L-wide

**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.