

## Technical Page

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

**Proposal Title:** Probing the Interstellar Electron Density with New Parkes Multibeam Survey  
**ABSTRACT:**

We propose to measure pulse-broadening times for 45 newly discovered pulsars from the Parkes multibeam survey that can be observed at Arecibo. This is part of a large-scale project being undertaken in collaboration with pulsar groups at JBO, ATNF and NCRA, and we will use Parkes and GMRT to obtain similar data for pulsars in the Southern sky. The upgraded Arecibo, along with the spectrometer capabilities of AOFTM and WAPP, will allow us to obtain high quality pulse profiles with minimal dispersion and instrumental effects. This data set, and similar ones from Parkes and GMRT, will provide essential inputs for a detailed and sophisticated modeling of interstellar electron density in the inner Galaxy. We seek to obtain pulse-broadening measurements at 430 MHz and 610 MHz, and observations at higher frequencies (1.4 or 2.2 GHz) for information on the intrinsic pulse shapes. We request 30 hours of telescope time in total, split up into multiple observing sessions.

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I NA want to do remote observing.

### Instrument Setup

430 G      610      L-wide      S-band receiver

### Atmospheric Optical Instruments:

**Special Equipment or setup:** We plan to use the AOFTM (at 430 MHz and 610 MHz) and the WAPP (at L band and S band)

### RFI Considerations

### Frequency Ranges Planned

425–435 MHz  
 605–615 MHz  
 1150–1730 MHz  
 2330–2430 MHz