

## Technical Page

Proposal Type: Regular  
 General Category: Astronomy  
 Sub-Category: Pulsars  
 Sub-Category: Pulsars  
 Observation Category:  
 Total Time Requested: 12 Hours

**Proposal Title:** Contrasting core and conal dominated single pulses of radio pulsars.

**ABSTRACT:**

The superb sensitivity of the Arecibo telescope at 430 MHz makes it a unique instrument for studies that demand high sensitivity such as single pulse polarimetry of normal pulsars. The upgraded telescope, equipped with the state-of-the-art instrumentation such as the Princeton Mark IV baseband recorder, opens up new horizons for high resolution pulsar studies which are crucial when deciphering the physics of pulsar emission. In particular, understanding the polarization properties of radio emission and hence interpreting them correctly is of great significance into other fields of pulsar research. Polarization is frequently used to derive the beam shape and the viewing geometry of pulsars, parameters that have to be incorporated in any model aiming at synthesizing the galactic pulsar population. Consequently, studies like the one proposed here are essential in interpreting polarization data. We intend to study the single-pulse polarization properties of core and conal pulsars and then compare them with the mean properties, which are known to differ markedly in those two types of profiles. We request a total of 12 h with the 430 MHz receiver to obtain high-quality single pulse polarimetry.

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I NA want to do remote observing.

**Instrument Setup**

430 G                      430 CH receiver

**Atmospheric Optical Instruments:**

**Special Equipment or setup:** none

**RFI Considerations**

**Frequency Ranges Planned**

not given