

Technical Page

Proposal Type: Regular
 General Category: Astronomy
 Sub-Category: Pulsars
 Sub-Category: Pulsars
 Observation Category:
 Total Time Requested: 40 - see below Hours

Proposal Title: Pulsar Distance and Galactic Electron Density Weisberg Determinations via 21 cm Absorption Measurements

ABSTRACT:

We propose to measure neutral hydrogen absorption spectra of distant pulsars. We will use these spectra and a galactic rotation model to kinematically determine the pulsar distances. The measured distance and dispersion measure together yield the mean electron density along the line of sight. These measurements will be used to calibrate galactic electron density models, which are essential for pulsar population studies.

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I NA want to do remote observing.

Instrument Setup

L-wide

Atmospheric Optical Instruments:

Special Equipment or setup: We did test obs. June 1998 and prelim. production obs. Dec 1998 (4 days; 17-21 hr LST). The Caltech Baseband Recorder Backend had serious problems in December (One of two tapedrives and one of two IFs down, with the former fixed by Phil and Arun at great effort and the latter unfixable by Andy Dowd with great effort and no schematics or spares), so little of the data are useful. We are now preparing to begin again. We will develop better advance communication with the Caltech group concerning maintenance and spares, or else we will choose a different backend such as the AOFTM (Arecibo Observatory Fourier Transform Machine, which was not working when we chose to use the CBR in June 1998).

RFI Considerations

Frequency Ranges Planned

not given