

Technical Page

Proposal Type: Regular
 General Category: Pulsars
 Observation Category:
 Total Time Requested: 68 Hours

Proposal Title: High frequency explorations of PSRs J1022+1001, J1713+0747, B1855+09 and B1937+21

ABSTRACT:

We propose observations of the 4 strongest Arecibo pulsars at high frequency (L, S, and C-band; PSRs J1022+1001, J1713+0747, B1855+09, B1937+21) for 2 day campaigns each week for 4 weeks. We want to determine the scintillation structure of these pulsars and to explore the intrinsic narrow band structure of PSR J1022+1001 (and others if present). We will use the scintillation parameter knowledge to establish a scintillation peak hunting capability of ABPP + BACSPIN backends. This will lead to improved precision of pulsar timing by a factor of 3-10; e.g. indications are that we will be able to achieve 25 ns precision with B1937+21 using the techniques presented in this proposal.

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Instrument Setup

L-wide S-low C

Atmospheric Optical Instruments:

Special Equipment or setup: none

RFI Considerations

Frequency Ranges Planned

1150-1730
 1700-2700
 4000-6000