

Abstract Submitted
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Analysis of a Current-Mode Detector for the NOPTREX Experiment¹ DANIELA OLIVERA VELARDE, Berea College, NOPTREX COLLABORATION — Charge, Parity and Time reversal (CPT) symmetries are an important aspect of the Standard Model. One of the outstanding problems in cosmology is the observed matter/antimatter asymmetry seen in the universe, which requires the violation of time reversal symmetry (T). The primary goal of the Neutron Optics Time Reversal Experiment (NOPTREX) is to search for T-violation in polarized neutron transmission through a polarized nuclear target. Preliminary measurements were taken on indium and tantalum resonances at the NOBORU test beam at the Japan Proton Accelerator Research Complex (J-PARC) to test the functionality of a prototype detector for the full experiment. We will discuss the analysis of this data as well as the construction of a secondary experiment to measure the angular correlation $\kappa(J)$ of liquid ¹³¹Xe.

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