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A Current-Mode Detector for Use in NOPTREX Time Reversal Experiment[1] DANIELLE SCHAPER, University of Kentucky, NOPTREX COLLABORATION — Searches for new sources of time reversal (T) violation are one of the highest intellectual priorities in nuclear, particle, and astrophysics. The Neutron Optics Time Reversal Experiment (NOPTREX) Collaboration aims to conduct a sensitive null-test search for T-violation in polarized neutron transmission through a polarized nuclear target which possesses low-energy p-wave resonances. We are developing a low-noise current-mode neutron detector with near-unit efficiency and fast time response to resolve the resonance shapes. This talk will discuss the design of the detector as well as test measurements taken on indium and tantalum resonances at the NOBORU test beam at the Japan Proton Accelerator Complex (J-PARC) in June 2017 using a set of prototypical detectors, analog electronics, and data acquisition module. We will also briefly discuss plans for an experiment at LANSCE to measure the P-odd asymmetry in the 0.734 eV p-wave resonance in ^{139}La to 1

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