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NOPTREX: A Precision Measurement of the Parity Violation in the 0.7 eV Resonance in ^{139}La[1] DANIELLE SCHAPER, Los Alamos National Laboratory, NOPTREX COLLABORATION[2] — One of the motivations to search for new physics Beyond the Standard Model (BSM) is to understand the baryon asymmetry present in the Universe, namely the discrepancy between the theoretical prediction of the baryon asymmetry based on the SM and the value obtained through observations of the cosmic microwave background. The Neutron OPtics Time Reversal EXperiment (NOPTREX) Collaboration seeks to measure signatures of parity-odd (P-odd) and time-reversal-symmetry-odd (T-odd) interactions in polarized neutron-polarized nucleon interactions. However, preliminary measurements must be made in order to choose a desirable target nucleus for this experiment; one such condition is that the ideal target nucleus contains resonances which have a large amount of parity violation (PV) present. From 2017-2019, the NOPTREX collaboration ran an experiment at the Los Alamos Neutron Science CEnter (LANSCE) facility to characterize the PV present in the 0.7 eV resonance in ^{139}La to high (1%) precision. This talk will focus on the experimental setup [1] as well as the subsequent data analysis process to extract the parity violation asymmetry. // [1] D. C. Schaper et al., Nucl. Instrum. Methods Phys. Res. A **969**, 2020.

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[2]Neutron OPtical Time Reversal EXperiment

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