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Design and construction of a Modular NaI(Tl) Detector Array for use in the Parity and Time Reversal Violation Measurements for NOPTREX[1] JON MILLS, Eastern Kentucky University, NOPTREX COLLABORATION — The goal of the NOPTREX collaboration is to probe the Standard Model by utilizing the properties of low energy neutron-nucleus resonances to find evidence of parity- and time-reversal-odd violations. In order to conduct these sensitive experiments, it is needed to design and simulate an array of modular, high precision NaI(Tl) detectors. These detectors will be designed to operate in both pulse and current modes. We have tentative beam time at LANSCE to perform a search for new parity violation in heavy nuclei as candidates for time reversal and to perform a research and development effort on the n+d=t+gamma experiment. We will discuss the results of our experiments to determine the most efficient design of the detectors, electronics, and magnetic shielding, as well as our progress on the construction and characterization of the array.

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