

Abstract Submitted
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Segmented Detector Calibration Techniques for the PROSPECT Experiment DANIEL DAVEE, College of William and Mary, PROSPECT COLLABORATION — PROSPECT will make the most precise measurement of the ^{235}U anti-neutrino spectrum to date and search for eV-scale sterile neutrinos. The proposed detector is composed of 120 ^6Li loaded liquid scintillator filled cells, and uses Inverse Beta Decay (IBD) $\nu + p \rightarrow e^+ + n$ to detect reactor anti-neutrinos. Because the positron produced in IBD carries most of the ν energy, the response throughout the entire segmented detector to electron-like energy depositions must be determined with high precision via an extensive calibration program. To this end the detector is designed to allow for the insertion of both optical and radioactive sources to test each performance of cell individually without changing the optical response. In addition to these measures, cosmogenic sources will be used to probe energy response of the detector at high energies.

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