

Abstract Submitted
for the DNP16 Meeting of
The American Physical Society

Development and Characterization of ^6Li -doped Liquid Scintillator Detectors for PROSPECT JEREMY GAISON, Yale University, PROSPECT COLLABORATION — PROSPECT, the Precision Reactor Oscillation and Spectrum experiment, is a phased reactor antineutrino experiment designed to search for eV-scale sterile neutrinos via short-baseline neutrino oscillations and to make a precision measurement of the ^{235}U reactor antineutrino spectrum. A multi-ton, optically segmented detector will be deployed at Oak Ridge National Laboratory's (ORNL) High Flux Isotope Reactor (HFIR) to measure the reactor spectrum at baselines ranging from 7-12m. A two-segment detector prototype with 50 liters of active liquid scintillator target has been built to verify the detector design and to benchmark its performance. In this presentation, we will summarize the performance of this detector prototype and describe the optical and energy calibration of the segmented PROSPECT detectors.

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Date submitted: 01 Jul 2016

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