

Abstract Submitted  
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**PROSPECT: The Precision Reactor Oscillation and Spectrum**

**Experiment** PIETER MUMM, National Institute of Standards and Technology, PROSPECT COLLABORATION — The PROSPECT short-baseline reactor experiment will perform a precision measurement of the antineutrino spectrum associated with  $^{235}\text{U}$  and probe, to high-significance, sterile neutrino oscillation with mass states in the eV region. PROSPECT will operate at distances of 7-12m in close proximity to the high-flux isotope reactor (HFIR) at ORNL . This presents several design challenges, particularly the need for excellent control of background. The PROSPECT detector consists of a 4 ton highly-segmented  $^6\text{Li}$ -loaded liquid scintillator volume with good in-situ calibration capabilities. Extensive prototyping has shown excellent light collection efficiency, uniformity of response, and background rejection capabilities. We will describe the experimental program, discovery potential, and progress in the construction of PROSPECT.

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