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PROSPECT: A Short-baseline Reactor Precision Spectrum and Oscillation Experiment THOMAS LANGFORD, Yale University, PROSPECT COLLABORATION — PROSPECT is a phased experiment consisting of segmented Li-loaded liquid scintillator antineutrino detectors designed to probe short-baseline neutrino oscillations and precisely measure the reactor antineutrino spectrum. The experiment will be located at the High Flux Isotope Reactor (HFIR) at Oak Ridge National Lab. The first phase is a movable 2.5 tonne detector located 7-9 m from the compact, highly enriched uranium (HEU) core. Over the past two years, PROSPECT has deployed multiple prototype detectors at HFIR to understand the local background environment and demonstrate active and passive background rejection. Measuring the neutrino spectrum from ^{235}U will give insight to the recent spectral discrepancies and provide an important benchmark for future reactor experiments. As a high statistics experiment, PROSPECT will probe the sterile neutrino best-fit region within one year of operation at HFIR.

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