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The PROSPECT ^{235}U Antineutrino Spectrum Measurement and its Nuclear Physics Impact[1] BENJAMIN FOUST, Yale University, PROSPECT COLLABORATION — The Precision Reactor Oscillation and SPECTrum experiment, or PROSPECT, detector is designed to accurately measure the ^{235}U antineutrino energy spectrum. The detector is comprised of 4 tons of Lithium-loaded liquid scintillator with 154 optically separated segments, and achieves excellent pulse-shape discrimination and particle identification. The experiment is located at the High Flux Isotope Reactor (HFIR), an 85 MW_{Th} highly-enriched uranium (HEU) reactor with short reactor-on periods, such that over 99% of the antineutrino flux comes from ^{235}U. In this talk, I present the latest spectrum results from PROSPECT and their impact to nuclear physics. We compare the resulting spectrum to model predictions, and test the contribution of ^{235}U towards potential high energy excess as seen in previous spectrum measurements performed at nuclear power reactors.

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