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Measurement of the Reactor Antineutrino Spectrum from ^{235}U Fission using PROSPECT

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PROSPECT is a short-baseline reactor antineutrino experiment designed to search for short-baseline sterile neutrino oscillations and perform a precise measurement of ^{235}U reactor antineutrino spectrum from the High Flux Isotope Reactor (HFIR) at Oak Ridge National Laboratory (ORNL). This measurement probes our understanding of recent anomalous results observed in reactor antineutrinos. PROSPECT uses a ~ 4-ton optically segmented, Li6 -loaded liquid scintillator detector with high light yield, world-leading energy resolution, and excellent pulse shape discrimination. This talk will describe the first year of operations of PROSPECT and report the latest results on the antineutrino spectrum measurement from ^{235}U fissions at HFIR.

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Primary author: SURUKUCHI, Pranava Teja (Yale University)

Presenter: SURUKUCHI, Pranava Teja (Yale University)

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