Contribution ID : **389** Type : **Poster new technologies**

Initial Performance of the PROSPECT Antineutrino Detector

Authorship annotation

for the PROSPECT Collaboration

Session and Location

Monday Session, Poster Wall #112 (Auditorium Gallery Left)

Abstract content

PROSPECT is a reactor antineutrino experiment whose primary goals are to probe short-baseline oscillations and perform a precise measurement of the U-235 reactor antineutrino spectrum. The PROSPECT Antineutrino Detector (AD) has been installed at the High Flux Isotope Reactor (HFIR) at the Oak Ridge National Laboratory, with the detector active volume covering a baseline range of 7-9m. To operate in this environment with tight space constraints, limited overburden and the possibility of reactor-correlated backgrounds, the PROSPECT AD incorporates design features that provide excellent background rejection. These include segmentation and the use of Li-6 doped liquid scintillator with good pulse-shape discrimination properties. Here we describe the initial performance of the detector, including parameters such as light collection, particle identification, and signal and background event rates.

Poster included in proceedings:

yes

Primary author(s) : BOWDEN, Nathaniel (Lawrence Livermore National Laboratory)

Presenter(s) : BOWDEN, Nathaniel (Lawrence Livermore National Laboratory)

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