

Calibration system for PROSPECT-II

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The PROSPECT experiment completed its first data-taking run by the end of 2018 and reported high precision electron-antineutrino spectra and oscillation results at a short baseline about $\sim 7\text{m}$ from the highly-enriched ^{235}U reactor core at High Flux Isotope Reactor(HFIR). For the second run an upgraded detector PROSPECT-II aims to further reduce ^{235}U spectrum uncertainty and expand the oscillation sensitivity in the high mass-splitting regime. The upgrades include modifications of the containment vessel, inner detector, and external calibration system to minimize dead mass inside the detector and contact with the liquid scintillator. In this talk, I will present the details of the calibration system performance expected in PROSPECT-II based on PROSPECT-I data and Monte Carlo simulations.