

Abstract Submitted
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Characterizing Energy Response of the Daya Bay Detectors

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— The Daya Bay reactor $\bar{\nu}_e$ experiment has provided the most sensitive measurement of the neutrino mixing parameter $\sin^2 2\theta_{13}=0.089\pm 0.01(\text{stat})\pm 0.005(\text{sys})$ by measuring relative differences in neutrino interaction rates between near and far detectors. In order to measure the energy spectrum distortion characteristically accompanying neutrino oscillation, the energy response of Daya Bay detectors and spectral characteristics of the Daya Bay reactors must be precisely understood. This talk will describe analysis done to characterize the detector response of the Daya Bay detectors, particularly the energy response's relative and absolute scales, non-linearity, and non-uniformity with position. This information can be used to predict the reconstructed $\bar{\nu}_e$ energy spectrum at near and far Daya Bay detectors, which is necessary for a rate+shape oscillation analysis and measurement of the neutrino parameters θ_{13} and Δm_{32}^2 .

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