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Spectrum Unfolding and Generic Reactor Antineutrino Spectrum Study at Daya Bay

The 'reactor antineutrino anomaly' was raised when the measured fluxes of short baseline reactor antineutrino experiments were normalized to the Mueller et al. prediction, which used revised reactor isotope models. Not only the fluxes, but also the spectrum shapes of different predictions were not identical. To replace these models for prediction of the flux and energy spectrum, a model-independent reactor antineutrino spectrum is extracted from ~300,000 inverse beta decay events measured by the Daya Bay experiment. This poster will describe spectrum unfolding for the estimation of the antineutrino energy spectrum from the measured spectrum of positrons from inverse beta decay. A method to predict the antineutrino flux and spectrum for reactors of differing fuel composition will also be presented.

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