Contribution ID: **236** Type: **Poster**

Reactor neutrino flux and spectrum measurements with Daya Bay full data set

Tuesday, 18 June 2024 17:30 (2 hours)

The Daya Bay experiment has accumulated the world's largest reactor antineutrino sample, which enables several critical precise measurements. Based on about 4.7 million inverse beta decay (IBD) candidates recorded at the Daya Bay near detectors throughout their entire operational lifespan, we present the latest measurements of reactor antineutrino flux and spectrum in this poster. Specifically, the rate analysis of the reactor antineutrino flux offers precise measurements of the average IBD yield, the fuel-dependent variation in the IBD yield, and the isotopic IBD yields of ^{235}U and ^{239}Pu. Concerning the reactor antineutrino energy spectrum, we report the precise measurements of the overall IBD yield spectrum and the isotopic spectra of ^{235}U and ^{239}Pu. Furthermore, the reactor antineutrino energy spectra are unfolded from observed reconstructed energy to neutrino energy in order to facilitate the comparison and prediction for other experiments.

Poster prize

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Session Classification: Poster session and reception 1

Track Classification: Reactor neutrinos