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Daya Bay Reactor Antineutrino Flux and Spectrum Measurement

This poster will present the latest results of the reactor antineutrino flux and spectrum measurement at Daya Bay. The Daya Bay Reactor Antineutrino Experiment employs eight antineutrino detectors in three different experimental halls to detect reactor neutrinos coming from six 2.9 GW_{th} commercial nuclear reactors. The latest absolute reactor antineutrino flux measurement with an improved detection efficiency uncertainty continues to confirm the discrepancy with the Huber-Mueller model (known as the reactor antineutrino anomaly) with a measured to predicted yield ratio of 0.952 ± 0.014 (exp.) ± 0.023 (model). From the observed evolution with fuel composition, the individual ^{235}U and ^{239}Pu antineutrino yields and energy spectra are extracted for the first time with commercial reactors. The data are consistent with ^{235}U mismodeling being the main contributor to the reactor antineutrino anomaly.

Mini-abstract

Daya Bay's characterization of reactor antineutrino emission helps unravel existing anomalies

Experiment/Collaboration

Daya Bay Reactor Neutrino Experiment

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