

Joint Isotope-Dependent Analysis of the Daya Bay and PROSPECT Reactor Antineutrino Spectra

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The Daya Bay and PROSPECT experiments have made world-leading measurements of the ^{235}U antineutrino fission spectra using liquid scintillator detectors located at nuclear reactors. The Daya Bay experiment has deconvolved a ^{235}U spectrum from ~ 3.5 million detected antineutrinos generated from power reactors with an isotopic mixture of fuels, and PROSPECT has detected $\sim 50,000$ antineutrinos generated by a research reactor highly enriched in ^{235}U . Combining the high-statistics Daya Bay measurement and PROSPECT's direct ^{235}U measurement we derive a more precise measurement of the ^{235}U antineutrino spectrum and improve the deconvolution of the power reactor fission spectrum into its individual isotopic components. In this talk, I will present the current status of the joint spectral analyses between these experiments.

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Yes

Primary author: GAISON, Jeremy (Yale University)

Presenter: GAISON, Jeremy (Yale University)

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