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Daya Bay's Latest Oscillation Results Using Neutron Captures on Gadolinium

The Daya Bay Reactor Neutrino Experiment was designed with the primary goal of precisely measuring the neutrino mixing parameter, θ_{13} . Eight identically-designed gadolinium-doped liquid scintillator detectors located in three underground experimental halls measure the reactor antineutrino flux at different distances from six nuclear reactors. Daya Bay has acquired nearly 4 million inverse beta decay candidates using neutron capture on gadolinium, the largest reactor antineutrino sample in the world to date. In this poster, I will present a brief overview of the experiment and discuss the recent improvement of systematic uncertainties pertaining to the absolute energy response, cosmogenic background and spent nuclear fuel. I will show the latest oscillation results that include the most precise measurement of the θ_{13} neutrino-mixing angle in the world.

Mini-abstract

Daya Bay's latest measurement and improved systematic uncertainties of θ_{13} .

Experiment/Collaboration

Daya Bay Collaboration

Primary author: DALAGER, Olivia

Presenter: DALAGER, Olivia

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