

The Daya Bay Reactor Neutrino Experiment

The Daya Bay reactor neutrino experiment has observed the disappearance of $\bar{\nu}_e$ from nuclear reactors at \sim kilometer baselines. Utilizing powerful nuclear reactors as antineutrino sources and tall mountains that provide ample shielding against cosmic-rays, we have performed a relative comparison of the $\bar{\nu}_e$ rate and spectrum with an array of eight identically-designed detectors positioned in near and far locations. As a result, we have achieved unprecedented precision in measuring the neutrino mixing angle θ_{13} and the neutrino mass square difference $|\Delta m_{ee}^2|$ in the $\bar{\nu}_e$ disappearance channel. This poster describes our experimental setup and our detector design. It also presents our latest results on neutrino oscillations, the search for a light sterile neutrino, and the high-statistics measurement of the absolute reactor antineutrino flux and spectrum.

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