

Detector and measurement of Daya Bay Experiment

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Precise determination of the least well known mixing angle of PMNS matrix, θ_{13} , is essential for future measurements of CP-violation in the lepton sector. The Daya Bay reactor neutrino experiment is designed to determine θ_{13} with a sensitivity of 0.01 or better in $\sin^2 2\theta_{13}$. The experiment is located in southern China, near the Daya Bay nuclear power plant. The designed sensitivity is based on comparing the relative flux of antineutrinos between “identical” antineutrino detectors at near and far distances. The detectors are immersed in water pools that provide active and passive shielding against backgrounds. 6 antineutrino detectors are taking data now in 3 experimental halls, the results on the observation of electron antineutrino disappearance at Daya Bay will be shown.

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