

New Trends in High-Energy Physics



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New results from the Daya Bay experiment

The Daya Bay neutrino experiment is the first experiment to make a definitive observation of electron antineutrino disappearance and is the first reactor experiment to measure the neutrino mass splitting Δm^2_{32} . The experiment utilizes eight functionally identical detectors to observe antineutrino flux from three pairs of nuclear reactors with baselines from 0.5 km to 1.5 km. The new dataset of almost 4M antineutrino interactions enables Daya Bay to provide the most precise θ_{13} measurement and the world's second best measurement of Δm^2_{32} . In addition, there are several other significant results, such as a high-statistics determination of the absolute reactor antineutrino flux and spectrum, a search for sterile neutrino mixing, study of wave packet treatment of neutrino oscillations, among others. The most recent results from Daya Bay, alongside the status and prospects of the experiment, are covered in this talk.

Author: Mr GONCHAR, Maxim (JINR)

Presenter: Mr GONCHAR, Maxim (JINR)