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Daya Bay Reactor Neutrino Experiment

The Daya Bay Reactor Neutrino Experiment is a neutrino oscillation experiment designed to determine the neutrino mixing angle \(\text{213} \) to better than 0.01 in \(\sin \text{in2} \text{\text{231}} \) at 90% confidence level. This will be accomplished by measuring the relative rates and energy spectra of reactor electron antineutrinos with multiple detectors positioned at different baselines from the reactor cores of Daya Bay and Ling Ao Nuclear Power Plant in southern China. Antineutrino Detectors will be put at 3 underground sites, which are connected by 3 kilometer tunnel. The Daya Bay Collaboration is consisted of about 200 physicists from 38 institutes of mainland, Taiwan, Hong Kong of China, Czech, Russia, and US. Civil construction is currently underway and detector construction has started on-site. The near detectors are scheduled to take data in 2010 and the full operation will start in 2011. The designed sensitivity can be achieved in three years after full operation.

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