

Abstract Submitted
for the PSF09 Meeting of
The American Physical Society

A High Precision Measurement of θ_{13} with the Daya Bay Antineutrino Detectors BRYCE LITTLEJOHN, University of Wisconsin - Madison, DAYA BAY COLLABORATION — The Daya Bay Reactor Neutrino Experiment is being built to measure short-baseline electron antineutrino disappearance at the Daya Bay nuclear reactor complex in southern China. Eight antineutrino detectors placed at different distances from the reactor cores will measure antineutrino flux and energy spectrum via inverse beta decay reactions on protons. Using this information, the experiment aims to identify the final neutrino mixing angle θ_{13} with a sensitivity of $\sin^2 2\theta_{13} < .01$ at 90% CL. As the Daya Bay sensitivity will ultimately be limited by detector-related systematics, understanding detector performance and identicalness will be crucial to meeting experimental goals. This talk will present the physics principles used in and the design of the detectors, the expected detector performance, an explanation of AD systematics, and the current status and future plans of the experiment.

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Date submitted: 12 Oct 2009

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