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Precision Measurement of $\sin^2(2\theta_{13})$ and $|\Delta m_{ee}^2|$ from Daya Bay (15' + 5')

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In the three-flavor neutrino mixing framework, θ_{13} was the least known mixing angle. The Daya Bay experiment was designed to measure this parameter with unprecedented precision through a relative measurement with eight functionally identical electron anti-neutrino detectors deployed at three experimental halls near three high-power nuclear reactor complexes in south China. In March 2012 the Daya Bay experiment discovered the non-zero value of $\sin^2 2\theta_{13} = 0.092 \pm 0.016 \pm 0.005$ with significance better than 5σ . The Daya Bay experiment is continuously improving the precision of $\sin^2 2\theta_{13}$ and the effective neutrino mass squared difference $|\Delta m_{ee}^2|$ with more statistics, less background and better control of systematics. In this talk, I will report the latest status on the measurement of $\sin^2 2\theta_{13}$ and $|\Delta m_{ee}^2|$ from the Daya Bay experiment.

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