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Precision Results on θ_{13} : Measurements and Implications

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Over the past decade, terrestrial experiments have proven that neutrino oscillations explain the solar neutrino problem and the atmospheric neutrino anomaly. These phenomena rely on neutrino mixing between the first and second, and second and third, neutrino generations, respectively. However, other experiments put limits on mixing between the first and third generations, and suggested a rather small mixing angle θ_{13} . In March 2012 the Daya Bay Reactor Neutrino Experiment reported a conclusive measurement of θ_{13} , with a larger value than generally expected. This result was consistent with some earlier indications of a nonzero θ_{13} from T2K, MINOS, KamLAND, and Double Chooz, and was soon confirmed by RENO. This talk will present updated results from Daya Bay and other experiments, and discuss consequences for the next generation of neutrino experiments, in the US and abroad.