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First double-detector results from Double Chooz experiment (15' + 5')

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Double Chooz is reactor neutrino experiment designed for precise measurement of the neutrino mixing angle θ_{13}. The first non-zero indication of the θ_{13} from a reactor experiment was provided by Double Chooz in 2011. A robust observation of θ_{13} was followed in 2012 by the Daya Bay and RENO experiments with multiple detectors. The final precision of the θ_{13} by reactor experiment is a critical matter for current and future experiments addressing the possible observation of leptonic CP violation in neutrino oscillations, such as T2K and NOvA. Systematic errors in reactor experiments are on the per-mill level each, hence comparison of multi-experimental measurements is important in the field. In addition to the Far detector, the Near detector started operation since December 2014, which allows us to reach significantly improved sensitivity of the θ_{13}. In this talk, we will show the first double-detector results for the θ_{13}, combining ˜1 year of double-detector and ˜2 years of single-detector data analysis. We will also show information of reactor-neutrino flux normalization and shape.

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