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First result from the Double Chooz reactor-neutrino experiment

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The first results of neutrino oscillation analysis from the Double Chooz experiment is presented. Double Chooz aims to measure theta_13 precisely using two detectors with different baselines at approximately 400 m for near and 1 km for far detectors. Systematic uncertainties will be strongly suppressed by the two detectors. Double Chooz started physics data taking by the far detector since April 2011. Neutrino oscillation analysis was carried out using 100 days of physics data. As a result of the analysis using the number of neutrino candidate event and the energy spectrum, deficit of reactor electron anti-neutrino was observed. If confirmed with more data and lower systematics, this deficit indicates the existence of reactor-neutrino oscillation at short baseline as a consequence of non-zero theta_13.

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