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Latest Results of the Double Chooz Experiment

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Double Chooz is a reactor neutrino disappearance experiment with the purpose of a precise measurement of the neutrino mixing angle θ_{13}. The experimental set-up consists of two identical liquid scintillator detectors, one at a longer baseline of about 1 km since 2011 and a closer one with a distance of about 400 m since 2014. This double-detector set-up with an essential iso-flux configuration allows one to fit the far detector data to the near detector data without relying on the reactor neutrino flux predictions, where systematic uncertainties are suppressed to per mill levels. Statistical uncertainties are reduced by adding the delayed signal of the Hydrogen neutron capture in addition to Gadolinium, which yields an increase of more than a factor two in statistics. By performing a global fit of the energy dependent neutrino rates and shapes in both detectors simultaneously, the neutrino mixing angle θ_{13} can be obtained. The latest results of the Double Chooz collaboration are presented in this talk.

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