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Rate-Only analysis with reactor-off data in the Double Chooz experiment

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Among ongoing reactor-based experiments, Double Chooz is unique in obtaining data when the reactor cores are brought down for maintenance. These reactor-off data allow for a clean measurement of the backgrounds of the experiment, thus being of uppermost importance for the θ_{13} oscillation analysis. While the oscillation results published by the collaboration in 2011 and 2012 rely on background models derived from reactor-on data, in this talk we present an independent study based on the handle provided by 7.53 days of reactor-off data. A global fit to both θ_{13} and the total background is performed by analyzing the observed neutrino rate as a function of the non-oscillated expected rate for different reactor power conditions. The result presented in this talk is fully consistent with the one already published by Double Chooz. As they both yield almost the same precision, this work stands as a prove of the reliability of the background estimates and the oscillation analysis of the experiment.

Auteur principal: Dr NOVELLA GARIJO, Pau (CIEMAT)

Orateur: Dr NOVELLA GARIJO, Pau (CIEMAT)

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