

The Double Chooz Rate+Shape θ_{13} Fit

Double Chooz is a reactor neutrino disappearance experiment with the purpose of a precise measurement of the neutrino mixing angle θ_{13} . The experimental setup consists of two identical liquid scintillator detectors at average baselines of about 400m and 1km to two reactor cores at the nuclear power plant in Chooz, France. The neutrinos are detected by measuring the signature of the inverse beta decay (IBD), which consists of a prompt positron- and a delayed neutron capture signal. By performing a global fit of the energy dependant neutrino rates and shapes in both detectors, the neutrino mixing angle θ_{13} can be obtained. For this, systematic uncertainties and backgrounds have been carefully evaluated and are included into the fit. Two different fit algorithms are compared and their obtained results are presented in this poster.

Authorship annotation

for the Double Chooz collaboration

Session and Location

Wednesday Session, Poster Wall #207 (Ballroom)

Poster included in proceedings:

yes

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