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Measurement of the neutrino mixing angle θ_{13} with the Double Chooz experiment IGOR OSTROVSKIY, University of Alabama, DOUBLE CHOOZ COLLABORATION — The neutrino mixing angle θ_{13} is last one which value is still unknown. Measuring the θ_{13} is important for completing our understanding of three flavor neutrino oscillations. Moreover, leptonic CP violation could only be measured in case the value of θ_{13} is not zero. The current best limit ($\sin^2(2\theta_{13})$ <0.17 @ 90CL) belongs to the Chooz experiment conducted over 10 years ago in French Ardennes. Described in this talk, is another experiment, Double Chooz, that is being prepared at the same site. The Double Chooz experiment offers several fundamental improvements and is aiming to surpass the current limit by an order of magnitude ($\sin^2(2\theta_{13}) < 0.03$). Details of the detector design, overview of systematic errors and expected sensitivity, as well as current status of the experiment are presented.

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