

J/ψ production at mid-rapidity in pp collisions at $\sqrt{s}=7$ TeV, measured with ALICE

The J/ψ production mechanism in proton-proton collisions is not fully understood and the measurement of the cross-section at LHC energies will bring new constraints on theoretical models.

The production of charm quarks takes place in the early collision stages. Therefore, in the case of heavy ions, they probe the hot and dense quark-gluon medium that is expected to be formed in the collision. The understanding of the J/ψ production in pp collisions is important also as a reference for the same measurement in heavy ion collisions.

We will report on the J/ψ production cross-section at mid-rapidity ($|y|<0.9$) in proton-proton collisions at $\sqrt{s} = 7$ TeV measured with the ALICE detector. We will show integrated and $p_{\{t\}}$ dependent cross-sections, down to $p_{\{T\}}=0$, measured using the di-electron decay channel. Comparisons with theoretical calculations and measurements in other experiments at lower energies and the LHC will be presented, as well as the status and prospects for the same measurement in Pb-Pb collisions at $\sqrt{s_{\{NN\}}}=2.76$ TeV.

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