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Measurement of non-prompt J/ψ at midrapidity in Pb–Pb collisions at √sNN = 5.02 TeV with ALICE detector at the LHC

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Abstract: J/ψ-meson is a bound state of charm and anti-charm ($c\bar{c}$) quark pair, whereas the heavy (anti)charm quarks are produced in the initial stages of ultrarelativistic heavy-ion collisions. The J/ψ production is sensitive to the presence of the deconfined state of quarks and gluons, quark-gluon plasma, which is expected to form in the nuclear collisions. Prompt J/ψ-mesons are produced at the primary vertex either directly or via strong or radiative decays of heavier quarkonium states whereas non-prompt J/ψ-mesons come from decays of b-hadrons. The comparison of these two classes of J/ψ-mesons allows one to probe the charm as well as beauty interaction with the medium.

ALICE has obtained results for non-prompt J/ψ production in a wide pT and centrality range in Pb–Pb collisions at √sNN = 2.76 TeV (LHC Run 1). Larger statistics collected in LHC Run 2 allows more precise results for Pb–Pb collisions at √sNN = 5.02 TeV. In this talk, new results for non-prompt J/ψ in Pb–Pb collisions at √sNN = 5.02 TeV at midrapidity are presented.

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