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Recent beauty production measurements in Pb–Pb collisions at midrapidity with ALICE at the LHC

Ultrarelativistic nuclear collisions provide an excellent opportunity to understand the properties of the deconfined medium of quarks and gluons, the so-called quark-gluon plasma. Beauty quarks are produced by hard parton-parton scatterings in the initial stages of the nuclear collisions, and experience the full medium evolution. Measurements of open-beauty hadrons can provide information on beauty quark production in the ultrarelativistic nuclear collisions. In addition, such measurements are important to understand the interactions of beauty quarks with the deconfined nuclear medium, for instance by the energy loss mechanism. Thanks to its excellent tracking and decay-vertex reconstruction performance, the ALICE detector is able to measure open-beauty production at midrapidity through inclusive decays, such as the ones of non-prompt J/ψ and non-prompt D mesons.

In this contribution, recent beauty production measurements, including nuclear modification R_{AA} of non-prompt J/ψ and non-prompt D^0 in Pb−Pb collisions at $\sqrt{s_{\mathrm{NN}}}$ = 5.02 TeV, as a function of transverse momentum and collision centrality, will be presented and compared with theoretical predictions

Submitted on behalf of a Collaboration?

Yes

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