

Nuclear modification factor of beauty-decay electrons in Pb-Pb collisions at $\sqrt{s_{NN}} = 5.02$ TeV with ALICE

In heavy-ion collisions, beauty quarks are created in the initial stage via hard parton scattering and experience the full evolution of the Quark Gluon Plasma (QGP). Thus, studying beauty hadrons is important to our understanding of the mass dependence of energy loss in this deconfined medium. We can extract information about energy loss by measuring the nuclear modification factor of beauty hadron decay electrons.

In ALICE, electrons are identified using the Time Projection Chamber, Time-of-Flight detector, and Electromagnetic Calorimeters. Then, beauty hadron decay electrons are separated from electrons from background sources (gamma conversion, Dalitz decay, and charm decay). This is done by fitting the electron impact parameter distribution with templates made using Monte Carlo simulations. In this poster, we will report the measurement of the beauty hadron decay electrons in 0-10% most central Pb-Pb collisions at $\sqrt{s_{NN}} = 5.02$ TeV using the ALICE detector. A comparison will be made with previous measurements and models.

Summary

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Session Classification: Poster Session