



Contribution ID: 426

Type: Poster

Beauty measurement prospects with ALICE 3

Friday 8 April 2022 14:12 (4 minutes)

Heavy-flavour quarks (charm and beauty) are produced on a very short time scale in initial hard-scattering processes. They experience the entire evolution of the ultrarelativistic-collision which makes them excellent probes for the characterization of the quark-gluon plasma (QGP) formed in heavy-ion collisions.

In particular, the comparison between beauty and charm measurements is a crucial tool for testing our understanding of mass-dependent energy loss in heavy-ion collisions. Measurements of beauty production in pp collisions are important to test perturbative QCD (pQCD) calculations, as well as to provide the baseline for Pb-Pb measurements. In p-Pb collisions, beauty-production is crucial to isolate cold nuclear matter effects.

The design of the next-generation detector for the heavy-ion program at the LHC, ALICE 3, features extremely good vertex resolution, particle identification of a broad range, and a large rapidity coverage to enable high-precision measurements of beauty production and elliptic flow in AA and pp collisions.

In this poster, the reconstruction performances of beauty hadrons at ALICE 3 will be shown, focusing the attention on the exclusive hadronic decays $B^+ \rightarrow \overline{D}^0 \pi^+$ in pp and AA collisions.

Authors: PALASCIANO, Antonio (Universita e INFN, Bari (IT)); THOMAS, Deepa (University of Texas at Austin (US))

Presenters: PALASCIANO, Antonio (Universita e INFN, Bari (IT)); THOMAS, Deepa (University of Texas at Austin (US))

Session Classification: Poster Session 3 T11_2

Track Classification: Heavy flavors, quarkonia, and strangeness production