

# 10th International Conference on Hard and Electromagnetic Probes of High-Energy Nuclear Collisions



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## $R_{AA}$ of electrons from open beauty-hadron decays in Pb-Pb collisions at $\sqrt{s_{NN}} = 5.02$ TeV with ALICE

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The LHC heavy-ion physics program aims at investigating the properties of strongly-interacting matter in extreme conditions of temperature and energy density, where the formation of the Quark-Gluon Plasma (QGP) is expected. Heavy quarks (charm and beauty) are regarded as unique probes of the properties of the QGP as they are created on a very short time scale in initial hard scattering processes, therefore, they witness the full evolution of the system. In particular, beauty quarks, being four times heavier than charm quarks, can be used to study the in-medium mass dependent energy loss.

Beauty production can be studied via semi-electronic decays of beauty hadrons. The yield of electrons coming from open beauty-hadron decays is obtained by fitting the impact parameter distribution with templates of different electron sources.

In this contribution, the measurements of electrons from beauty-hadron decays in Pb-Pb collisions at  $\sqrt{s_{NN}} = 5.02$  TeV with the ALICE detector will be presented. For different centrality classes, the  $R_{AA}$  of beauty-hadron decay electrons is compared to that of electrons coming from charm and beauty hadron decays and with model calculations.

### Collaboration (if applicable)

### Track

Heavy Flavor and Quarkonia

### Contribution type

Poster

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