

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



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## Heavy flavor production in PbPb collisions : results and prospects

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In 2018, LHCb recorded  $\sim 210 \text{ microbarn}^{-1}$  integrated luminosity of PbPb collisions at  $\sqrt{s_{NN}} = 5.02 \text{ TeV}$ . Although limited to peripheral hadronic collisions, this new dataset offers unique opportunities to study simultaneously open and close heavy flavor production, at forward rapidity down to zero pT, at the LHC. Moreover, with an increase of the luminosity by a factor 20 compared to the previous 2015 PbPb dataset, precise measurements on photo-produced charmonia in ultra-peripheral collisions are foreseen.

All these measurements are sensitive to and would help to constrain the small-x parton distribution functions (nPDFs) in the target nucleus.

Finally, the great momentum resolution of the detector allows to study photo-produced J/psi in collisions with a nuclear overlap.

This new type of prob is sensitive to the geometry of the collisions but also to the electromagnetic field of the Pb nuclei.

In this talk, we present the latest results on heavy flavor productions obtained by LHCb measurements in peripheral and ultra-peripheral PbPb collisions.

Prospectives on this first results are also discussed.

### Collaboration (if applicable)

LHCb

### Track

Heavy Flavor and Quarkonia

### Contribution type

Contributed Talk

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