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Low mass dielectron measurements in pp, p–Pb and Pb–Pb collisions with ALICE at the LHC

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Low mass dielectrons are important probes of the hot and dense QCD medium created in heavy-ion collisions, since the production of low mass dielectrons is sensitive to
the thermodynamical properties of the medium and chiral symmetry restoration in the medium.

The ALICE experiment at the LHC has measured low mass dielectrons in pp collisions at $\sqrt{s}$ = 7 TeV and p-Pb collisions at $\sqrt{s_{\rm NN}}$ = 5.02 TeV to study and disentangle effects due to the cold nuclear matter. Recently, ALICE also measured low mass dielectron mass spectra for different pair $p_{\rm T}$ ranges in Pb-Pb collisions at $\sqrt{s_{\rm NN}}$ = 2.76 TeV for the study of the
properties of the hot and dense medium.

In this talk, we will present the status of low-mass dielectron measurements in all collisions systems produced at the LHC and we will discuss the comparison with the
expected hadronic sources, the production of virtual photons in pp and Pb-Pb collisions, and the production of heavy-flavors in pp and p-Pb collisions. Future prospects of the low-mass dielectron measurements in ALICE at the LHC Run3 and Run4 will be discussed as well.

Summary

Presentation type

Oral

Author: GUNJI, Taku (University of Tokyo (JP))

Presenter: GUNJI, Taku (University of Tokyo (JP))

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