

XXV International Baldin Seminar on High Energy Physics Problems
"Relativistic Nuclear Physics and Quantum Chromodynamics"



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on High Energy Physics Problems
Relativistic Nuclear Physics & Quantum Chromodynamics

September 18 - 23, 2023, Dubna, Russia

Contribution ID: 2

Type: **not specified**

Hadronic resonance production with ALICE at the LHC

Thursday, 21 September 2023 16:30 (20 minutes)

The study of resonance production is important in proton-proton, proton-nucleus, and heavy-ion collisions. Since the lifetimes of short-lived resonances are comparable with the lifetime of the late hadronic phase produced in heavy-ion collisions, resonance measurable yields are affected by regeneration and rescattering. These competing effects are investigated by measuring the yield ratios of resonances to that of the corresponding longer-lived hadron as a function of multiplicity. From these measurements, it is possible to obtain information on the time interval between the chemical and kinetic freeze-out.

The measurements in pp and p-Pb collisions constitute a reference for nuclear collisions and provide information for tuning event generators inspired by Quantum Chromodynamics.

In this talk, recent results on short-lived hadronic resonances obtained with ALICE at LHC energies are presented.

These results include system-size and collision-energy evolution of transverse momentum spectra, yields and the ratios of resonance yields to those of longer-lived particles, and nuclear modification factors. The results will be compared with model predictions and measurements at lower energies.

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Session Classification: Parallel: Relativistic heavy ion collisions