

Hadronic resonance production measured with ALICE at the LHC

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Collaboration

ALICE

Abstract content

Short-lived hadronic resonances constitute a sensitive probe of the dynamical evolution of the fireball created in heavy-ion collisions, since a significant fraction of them decay in the time span (of the order of few fm/c) between chemical and kinetic freeze-out. Competing processes, such as regeneration and re-scattering, may alter the ratio of the resonance to non-resonance yields. The study of resonance production in collision systems such as pp and p-Pb provides a necessary baseline to disentangle initial-state effects from genuine medium-induced effects. ALICE has measured the production of both meson and baryon resonances in different collision systems at LHC energies. A review will be presented in comparison with the measurements at RHIC energies and to the predictions from models. In particular, recent results on $K(892)^0$ and $\phi(1020)$ production in p-Pb collisions at $\sqrt{s_{NN}} = 5.02$ TeV will be discussed. Ratios of resonance to long-lived hadron production in Pb-Pb are compared with the same quantities measured in pp and p-Pb collisions, in order to investigate re-scattering effects. The nuclear modification factors (R_{AA} , R_{pPb}), *recently measured up to high p_T* for resonances, are compared to the same measurement for long-lived hadrons.

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