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Type: Talk

Hadronic resonances in heavy-ion collisions at NICA energies and their reconstruction in the MPD setup

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The short-lived hadronic resonances are used to study the properties of the hot and dense medium produced in relativistic heavy-ion collisions. The resonance lineshapes (masses and widths), yields and mean transverse momenta measured in the hadronic decay channels are sensitive to different stages of the nuclear collisions. Having different masses, strangeness content and baryonic numbers, they contribute to the study of strangeness production, reaction dynamics and particle production mechanisms in different momentum ranges. Resonances are most useful in the study of the lifetime and density of the late hadronic phase.

In this talk, we review the expected properties of short-lived resonances in heavy-ion collisions at NICA energies with a focus on the line shape modifications and their consequences for the extracted yields and shapes of the production spectra. We also present new results on the possibility to reconstruct $K^*(892)^\pm$, $\Sigma(1385)^\pm$ and $\Xi(1530)^0$, which have weakly decaying daughters in the intermediate stages of the decays, in the MPD detector in Au+Au collisions at $\sqrt{s_{NN}} = 4-11$ GeV.

Is this abstract from experiment?

Yes

Name of experiment and experimental site

MPD

Is the speaker for that presentation defined?

Yes

Details

Victor Riabov

Internet talk

Yes

Primary author: RIABOV, Viktor (NRC Kurchatov Institute PNPI (RU))

Presenter: RIABOV, Viktor (NRC Kurchatov Institute PNPI (RU))

Session Classification: B Heavy Ion Collisions and Critical Phenomena