Contribution ID: **125** Type: **Oral report**

Hadronic resonances as probes of the late hadronic phase in heavy-ion collisions at NICA energies

Saturday 25 September 2021 14:25 (25 minutes)

The short-lived hadronic resonances are used to study the properties of the hot and dense medium produced in relativistic heavy-ion collisions. Due to their short lifetimes, the resonance yields and peak shapes measured in the hadronic channels are sensitive to rescattering and regeneration effects in the hadronic phase. Besides, the resonances with different strangeness content and baryonic numbers probe the strangeness enhancement phenomenon and hadronization mechanisms in the low-to-intermediate transverse momentum range. In the MPD experiment at NICA, the resonance production will be measured in heavy-ion collisions at $\sqrt{s_{NN}}$ = 4-11 GeV, in the range of energies where extensive measurements of resonances are not experimentally available. In this contribution, we report on the expected modifications of the resonance yields and line shapes in heavy-ion collisions at NICA energies estimated using general-purpose event generators. Results of feasibility studies for reconstruction of resonances in the MPD detector will be presented with a focus on reconstruction of $K*(892)^{\pm}$, $\Sigma(1385)^{\pm}$ and $\Xi(1530)^{0}$, which have weakly decaying daughters. The results are presented and discussed as a function of collision energy and centrality.

Primary authors: IVANISHCHEV, Dmitry (NRC Kurchatov Institute PNPI (RU)); KOTOV, Dmitry (Peter the Great St.Petersburg Polytechnic University (SPbPU)); MALAEV, Mikhail (NRC Kurchatov Institute PNPI (RU)); RIABOV, Viktor (NRC Kurchatov Institute PNPI (RU)); RYABOV, Yuriy.G (NRC Kurchatov Institute PNPI (RU))

Presenter: IVANISHCHEV, Dmitry (NRC Kurchatov Institute PNPI (RU))

Session Classification: Section 4. Relativistic nuclear physics, elementary particle physics and high-energy physics

Track Classification: Section 4. Relativistic nuclear physics, elementary particle physics and high-energy physics.