

Performance of the MPD detector in the study of strangeness production and event-by-event fluctuations in Au+Au collisions at NICA

Friday 16 October 2020 17:30 (20 minutes)

The future heavy-ion collider NICA (JINR, Dubna) will provide a variety of beam species in the energy range of 4 –11 GeV. New experimental data on strangeness production and event-by-event fluctuations from NICA allow addressing important QCD properties such as the nature of the deconfinement phase transition and existence of the Critical End Point (CEP). Heavy-ion collisions at NICA will be measured with a multi-purpose detector –MPD, which provides precise reconstruction of multiple physics channels.

NICA physics goals and MPD concept will be presented with an emphasis to detector performance in strange mesons reconstruction as well as in the measure of high order moments of the net-proton and net-kaon event-by-event multiplicity distributions.

This work was supported by the Russian Foundation for Basic Research grant 18-02-40037.

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

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