



Contribution ID: 38

Type: **not specified**

PERSPECTIVE STUDY OF HYPERONS AND HYPERNUCLEI WITH THE MPD DETECTOR AT NICA

Wednesday 28 August 2019 11:30 (30 minutes)

A new project named NICA (Nuclotron-based Ion Collider facility) is under realization at JINR. The main NICA scientific goal is the experimental exploration of yet poorly known region of the QCD phase diagram of high baryon density. Of particular interest is the strange sector of the phase diagram, which can be probed with multiple hadron specie (from kaons to multistrange hyperons) and hypernuclei. The MultiPurpose Detector (MPD) at NICA is a high-resolution device providing precise reconstruction of heavy-ion collisions and measure of the production of charged and neutral kaons, hyperons, nuclear clusters, and hypernuclei [2].

In my report physics motivation for the study of strangeness and hypernuclear production at NICA will be given together with the model predictions for the estimated particle production yields. The latter will be supported with the first results of feasibility study for hyperon and hypernuclear reconstruction with the MPD detector

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Session Classification: Workshop on Physics at FAIR-NICA-SPS-BES/RHIC