

Investigation of light flavor particle production at the MPD experiment

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Precise study of heavy ion collisions in the energy range $\sqrt{s_{NN}} = 4 - 11$ GeV is one of the key features of the NICA complex which is currently under construction at JINR (Dubna). Current experimental results in this area suggest this energy region as the most interesting to study the QCD phase diagram and search for phase transition and possible Critical Point. The MPD experiment at NICA will perform Bi+Bi collisions with $5 * 10^{25}$ luminosity for the first physics runs and will switch to Au+Au collisions with higher luminosity in later runs allowing us to collect high statistics for comprehend analysis.

We present recent results on light flavor particle production, centrality determination and nuclear modification factor at the energy range $\sqrt{s_{NN}} = 7.7 - 11$ GeV. Charged pion and kaon production in different centrality regions is calculated for several MC models. Nuclear modification factor R_{CP} and pion to kaon ratios are presented.

We discuss measurements that will be performed on the first experimental data of the MPD experiment.

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