

Precise study of heavy ion collisions in energy range $\sqrt{s_{NN}} = 4 - 12$ GeV is one of the key features of NICA complex which is currently under construction at JINR (Dubna). Current experimental results in this area suggests this energy region as the most interesting to study the QCD phase diagram evolution. MPD experiment at NICA will perform Bi+Bi and Au+Au collisions with high luminosities allowing us to collect high statistics for further analysis. In preparation for the first data taking MPD collaboration produced large data samples of different Monte Carlo models for that energy region.

We present recent results on light flavor particle production, centrality determination and hyperon production at energy range $\sqrt{s_{NN}} = (7.7 - 11)$ GeV. Charged pion and kaon production in different centrality regions is calculated for several 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 MPD experiment.