

Status and preparations for the first physics with the MPD experiment at NICA

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The Multi-Purpose Detector (MPD) is the main heavy-ion experiment of the NICA complex under construction at JINR. With collisions of heavy-ions in the energy range $\sqrt{s_{NN}} = 4 - 11$ GeV, MPD will scan the region of high net baryon density of the QCD phase diagram to look for the critical end point and study the first order phase transition predicted to occur in that region. The commissioning of the MPD and first data taking with Xe-Xe or Bi-Bi collisions at ~ 7 GeV is foreseen to start in 2025. The MPD comprises a rich physics program that includes the study of hadron spectra and hyper-nuclei production, collective flow, correlations and fluctuations, hyperon global polarization, electromagnetic probes, open charm production. In this talk, we present the status of the project, its competitiveness and its physics measurements feasibility with the first beams.

Section

Heavy ion collisions at Intermediate and high energies

Primary author: GOLOSOV, Oleg (NRC "Kurchatov Institute", MEPHI)

Presenter: GOLOSOV, Oleg (NRC "Kurchatov Institute", MEPHI)

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