

# Initial physics performance and status of the MPD at NICA

*Monday, June 5, 2023 5:45 PM (20 minutes)*

The Multi-Purpose Detector (MPD) is the flagship experiment in the Nuclotron-based Ion Collider Facility (NICA) currently under construction at the Joint Institute for Nuclear Research (JINR) in Dubna, Russia. The experiment is designed to run in the collider mode. The MPD will study heavy-ion collisions in the energy range  $\sqrt{s_{NN}} = 4-11$  GeV, starting with Bi+Bi collisions at  $\sqrt{s_{NN}} = 9.2$  GeV. Its initial stage of operation is planned to start at the beginning of 2024. The MPD is an international collaboration consisting of 34 institutions from 10 countries with more than 450 participants. The MPD focuses on the study of the high net-baryon density region of the QCD phase diagram, to search for the conjectured critical end point, the onset and nature of the deconfinement phase transition and the onset of chiral symmetry restoration. In this presentation, we will review the current status of the MPD and its physics program. Also, the feasible physics measurements along with the expected performance of the detector subsystems will be presented.

**Primary authors:** Prof. AYALA, Alejandro (Instituto de Ciencias Nucleares, UNAM); MALDONADO, Ivonne

**Presenter:** MALDONADO, Ivonne

**Session Classification:** New facilities

**Track Classification:** New facilities