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The road to first physics with the MPD at NICA

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The Multi-Purpose Detector (MPD) is one of the two heavy-ion experiments under construction in the Nuclotron-based Ion Collider Facility (NICA) at the Joint Institute for Nuclear Research (JINR) in Dubna, which is designed to run in the collider mode. In its initial stage of operation, planned to start at the end of 2023, the MPD will study collisions of heavy ions in the energy range $\sqrt{s_{NN}} = 4 - 11$ GeV, starting with Bi+Bi collisions at $\sqrt{s_{NN}} = 9.2$ GeV. The MPD is an international collaboration consisting of 31 institutions from 10 countries with more than 450 participants. The MPD aims to study the phase diagram of QCD matter at maximum baryon density, to determine the onset and the nature of the phase transition between the deconfined and hadronic matter and to search for the conjectured critical end point. In this talk, we describe the MPD detector and its physics program, with emphasis on the first physics measurements with Bi beams as well as the expected performance of all the detector subsystems.

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