

# XXV International Baldin Seminar on High Energy Physics Problems "Relativistic Nuclear Physics and Quantum Chromodynamics"



XXV International Baldin Seminar  
on High Energy Physics Problems  
*Relativistic Nuclear Physics & Quantum Chromodynamics*

September 18 - 23, 2023, Dubna, Russia

Contribution ID: 126

Type: **not specified**

## Status and first physics capabilities of the MPD at NICA

*Tuesday, 19 September 2023 09:00 (30 minutes)*

V. Riabov for the MPD Collaboration

The Multi-Purpose Detector (MPD) is a heavy-ion collider experiments at Nuclotron-based Ion Collider Facility (NICA), which is designed to study heavy-ion collisions in the energy range  $\sqrt{s_{NN}}=4-11$  GeV. Physics objectives of the MPD experiment are to search for new phenomena in the baryon-rich region of the QCD phase diagram, where a phase transition of the first order and existence of the critical end point are predicted. The competitive advantages of the MPD experiment at NICA are the high event rate, possibility of the system size scan, uniform acceptance across different collision systems and energies. Commissioning of the MPD detector and the first data taking are expected to take place in 2025. This report reviews current status of the MPD detector and its physics program, with emphasis on the physics measurements feasible with the first beams.

**Primary author:** Dr RIABOV, Viktor (PNPI)

**Presenter:** Dr RIABOV, Viktor (PNPI)

**Session Classification:** Plenary