

ACCELERATOR SEMINAR

“Search for the Mixed Phase in Dense Baryonic Matter: NICA Project at JINR”

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The project of Nuclotron-based Ion Collider Facility NICA/MPD (MultiPurpose Detector) under development at JINR (Dubna) is presented. The general goals of the project are providing of colliding beams for experimental studies of both hot and dense strongly interacting baryonic matter and spin physics (in collisions of polarized protons and deuterons). The first program requires providing of heavy ion collisions in the energy range of $\sqrt{s_{NN}} = 4 \div 11$ GeV at average luminosity of $L = 1 \cdot 10^{27} \text{ cm}^{-2} \cdot \text{s}^{-1}$ for $^{197}\text{Au}^{79+}$ nuclei. The polarized beams mode is proposed to be used in energy range of $\sqrt{s_{NN}} = 12 \div 27$ GeV (protons) at luminosity of $L \sim 1 \cdot 10^{32} \text{ cm}^{-2} \cdot \text{s}^{-1}$. The key issue of the Project is application of cooling methods – stochastic and electron ones. The report contains the description of the hot and dense baryonic matter specific expected features, the requirements to the parameters and scheme of the accelerator facility aimed for experimental studies of the matter in such a state, the status of the Project development.

Tuesday, December 3, 2013
11:00 a.m.
CEBAF Center, Room F113

Coffee before seminar beginning at 10:45 a.m.