

Status and Perspectives of the NICA Project

Tuesday, 11 September 2018 10:20 (40 minutes)

The NICA (Nuclotron-based Ion Collider fAcility) is the new international research facility under the constructing at the Joint Institute for Nuclear Research (JINR, Dubna). The main targets of the facility are: study of hot and dense baryonic matter over the energy range of the maximum baryonic density; investigation of nucleon spin structure and polarization phenomena; and the development of the main JINR facility as well based on the new collider of relativistic ions from protons to gold and polarized protons and deuterons at the maximum collision energy of $\sqrt{s_{NN}} = 11 \text{ GeV}$ (Au79+) and 27 GeV (p). Two collider detector setups MPD and SPD are under construction and design respectively. The setup BM@N (Baryonic Matter at Nuclotron) had started data taken at the new fixed target area of the Nuclotron. An average luminosity of the collider is expected at the level of $1 \cdot 10^{27} \text{ cm}^{-2} \text{ s}^{-1}$ for Au (79+) and $1 \cdot 10^{32} \text{ cm}^{-2} \text{ s}^{-1}$ for polarized protons (at the maximum energy). The status of NICA design and construction is presented some details of the SPD design and polarization research program is discussed.

Primary author: Prof. KOVALENKO, Alexander (Joint Institute for Nuclear Research)

Co-authors: Prof. SORIN, Alexander (JINR); Prof. TRUBNIKOV, Grigory (JINR); Prof. MESHKOV, Igor (JINR); Prof. LEDNICKI, Richard (JINR); Prof. TSENOV, Rumen (JINR); Prof. MATVEEV, Victor (JINR); Prof. KEKELIDZE, Vladimir (JINR)

Presenter: Prof. KOVALENKO, Alexander (Joint Institute for Nuclear Research)

Session Classification: Plenary

Track Classification: Future Facilities and Experiments