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NICA accelerator complex project at JINR

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Status of the project of NICA (Nuclotron-based Ion Collider fAcility) accelerator complex, which is under construction at JINR (Dubna, Russia), is presented. The main goal of the project is to provide ion beams for experimental studies of hot and dense baryonic matter and spin physics.
The NICA collider will provide heavy ion collisions in the energy range of √sNN=4÷11 GeV at average luminosity of L=1·1027cm−2·s−1 for 197Au79+ nuclei and polarized proton collisions in energy range of √sNN=12÷27 GeV at luminosity of L ≥ 1031cm−2·s-1.
NICA accelerator complex will consist of two injector chains, 578 MeV/u superconducting (SC) booster synchrotron, the existing SC synchrotron (Nuclotron), and the new SC collider that has two storage rings each of 503 m circumference.
Constructing facility is based on "Nuclotron"-technology of SC magnets with iron yoke. Both stochastic and electron cooling methods are used for the beam accumulation and its stability maintenance.

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