

14.03.02 Nuclear Physics and Engineering

Physics of Extreme States of Matter

The program is aimed at training specialists in particle beam physics and radiation physics and chemistry.

The program includes research of atomic nuclei, plasma, condensed matter state, materials science, nuclear reactors, charged particle accelerators, development of nuclear technologies; in particular, topical issues of condensed matter physics; interaction of radiation with matter, diagnostics and application of heavily charged particle beams, radiation and nuclear technologies, analytical studies of the interaction of fluxes of high-energy particles with matter.

The program curriculum comprises study of basic natural sciences, physical and mathematical sciences and related subjects, a set of interrelated courses in charged particle beams and physics of the interaction of particles with matter, computer simulations and modelling, analytical methods of beam monitoring, physics of the interaction of the charged particles with matter, accelerator physics.