03.06.01 Physics and Astronomy

Condensed Matter Physics

Graduation department: Solid State Physics and Nanosystems Department (№70)

Program objectives

training researchers and experts in condensed matter physics, as well as research and development of devices and installations of condensed matter physics, and their application for research and technological purposes.

Research areas

- solid-state physics
- physics of superconductivity
- physics of nanostructures
- laser physics and laser technology
- spintronics
- physics of interaction of concentrated fluxes of laser radiation with matter
- magnetically ordered materials, shape memory materials, nanomaterials, thin films
- gas sensors, photonic crystals and metamaterials
- nonlinear optics
- strongly correlated electron systems

Curriculum features

- individual study plans, academic mobility opportunities
- participation in research and teaching together with leading specialists in the field, practical work of PhD students in scientific groups of various organizations;
- competitive selection of PhD students and help in their employment in Russian scientific centers, State Atomic Energy Corporation “Rosatom”, and others.

Industrial and research practical training and employment opportunities

- the State Atomic Energy Corporation "Rosatom" enterprises
- Insitutes of Russian Academy of Sciences, and namely: P.N. Lebedev Physical Institute, Shubnikov Institute of Crystallography, Joint Institute for High Temperatures, Institute of Solid State Physics, Kotel’nikov Institute of Radio Engineering and Electronics, and others;
- National Research Centre "Kurchatov Institute"

- Russian state scientific center “TRINITY”
- innovative high-tech business enterprises.