

03.06.01 Physics and Astronomy

Condensed Matter Physics

Program objective

to train researchers for conducting high-level research and development in condensed matter physics and developing new structural and functional materials and production physical models.

Research and professional activities

- obtaining skills in theoretical and experimental research of materials structure, composition and properties;
- studying structural-phase state, physical and mechanical properties of structural and functional materials after processing (incl. radiation exposure);
- modeling of processes and phenomena that occur in solid under the influence of radiation;
- creating structural and functional materials with a given set of properties, including heat-resistance, radiation-and corrosion-resistance, taking into account stabilization principles of structural-phase states;
- modifying structural materials using ion-beam and plasma technologies to increase of their corrosion, erosion and tribological properties.