

## **16.04.02 High-Tech Plasma and Power Plants**

### **High-Power Lasers and Laser Thermonuclear Fusion**

#### **Program objective**

Training specialists in laser thermonuclear fusion physics, superstrong laser fields, high-density-energy physics, high-power laser application in technologies. Training aimed at solving wide range of tasks, such as high-power laser systems design and construction, theoretical and experimental research on physical processes of laser radiation-surface interaction, practical tasks in laser physics, plasma physics, laser micro- and nanotechnology, high-density-energy physics.

#### **Competitive advantages**

- Fundamental physical and mathematical and engineering training
- Each student enjoys an individual approach in education taking into account specific features of further employment
- Students participate in scientific and research projects conducted by the Department, as well as by the SC ROSATOM companies, the RAS and others.

#### **Areas of research and expertise:**

- Laser plasma with thermonuclear parameters;
- High-power lasers. Generation and amplification in laser systems;
- Design of diagnostic devices for studying matter in extreme conditions;
- Study of the processes of interaction between the high-power laser radiation with targets and generation of shock waves in condensed matter.

#### **Career opportunities**

- leading Russian and foreign research centers and companies that specialize in laser and plasma industrial technologies;
- high-tech industries and knowledge-based businesses.