

03.06.01 Physics and Astronomy

Plasma Physics

Graduation department: Plasma Physics Department (№21).

The staff of the department is one of the leading Russian scientific schools, organizes major Russian and international conferences, and has more than 50 years of experience in educational and research activities with the participation of employees of leading Russian scientific organizations (NRC «Kurchatov Institute», TRINITI, GPI RAS, LPI RAS etc.) and a number of leading foreign experts.

Program objective

- highest qualification staff training for domestic fusion program and international project ITER;
- highest qualification staff training for academic institutes and centers engaged in studies of plasma and plasma-like media in extreme states, in space and in laboratory conditions;
- highest qualification staff training for innovative technological applications of plasma in manufacturing, ecology and medicine

Research areas

- hot plasma and controlled fusion with magnetic confinement
- inertial fusion (as a part of research groups of the leading centers and institutes of Russian Federation)
- studies and development of gas discharge plasma and its application in lasers, ecology and medicine
- development of ion-plasma technologies for modification of materials and items
- participation in research of plasma phenomena in space, atmosphere and condensed media
- computer simulation of complex physical phenomena
- development and application of various methods of plasma diagnostics.

Curriculum features

- individual study plans, academic mobility opportunities
- broad academic and scientific collaboration with both domestic (Rosatom, Russian Academy of Sciences) and foreign (Belgium, Germany, Kazakhstan, USA, France, Sweden, Japan, etc) institutes.

Practical training and future employment

- National Research Centre “Kurchatov Institute”
- State Atomic Energy Corporation ROSATOM (Russian Federal Nuclear Centre, TRINITY Institute)
- ITER organization
- Federal Agency of Scientific Organizations
- General Physics Institute of the Russian Academy of Sciences
- Physical Institute of the Russian Academy of Sciences
- Joint Institute for High Temperatures of the Russian Academy of Sciences
- Space Research Institute of the Russian Academy of Sciences
- Institute of Applied Mathematics of the Russian Academy of Sciences.