

14.04.02 Nuclear Physics and Technologies

Development of Electromechanical and Electrophysical Facilities

Program objective

To provide students with profound knowledge and skills to work for research, design, creation and operation of control systems, automation of physical facilities, including nuclear power plants.

Key research areas

- control systems and automated control of nuclear reactors and nuclear-physical facilities and their elements
- electronic and electrical systems and equipment of nuclear and physical facilities
- radiation monitoring systems of physical facilities and objects
- instrumentation of measurement systems and control systems
- diagnostics, control and protection of nuclear and electrophysical facilities.

Curriculum features

- Theory and automatic control systems;
- Theoretical foundations of information technology;
- Digital automatic control systems
- Distributed computer measuring and control systems;
- NPP technology and equipment;
- Automation of NPP control;
- Design of microprocessor control systems;
- Research practical training with the use of the software and hardware of MEPhI specialized educational and research laboratories.

A distinctive feature of the program is the active use of modern software and hardware tools of ICYPHYS laboratories, including standard equipment and software for the NPP process control system, as well as modern software systems for automated research, modeling and design of automation systems for physical facilities.

Practical training and future employment

- research, design and production organizations and enterprises of Rosatom State Corporation (incl. Rosenergoatom Concern enterprises)

specialized institutes of the Russian Academy of Sciences