

Nuclear physics methods of solar-terrestrial physics

National Research Nuclear University MEPhI (Moscow Engineering Physics Institute)

Degree or qualification is awarded: **Master degree**

Language of study: **Russian**

Mode of study: **full-time**

Duration: **2 years**

Availability of free education: **yes**

Price: **207 610 rubles per semester**

Programme curator: **Anatoliy A. Petrukhin**

Tel.: **Contact name: Olga N. Petukhova, Phone number. +74957885699, ext. 8045.**

E-mail: ONPetukhova@mephi.ru

Goals of the Program (brief description of the Program): Training of graduates capable of working in the field of research connected with solar-terrestrial physics, dynamical heliosphere processes studies in near-earth space with the help of cosmic rays.

Characteristics of the scope and objects of professional activity of future graduates: Monitoring and forecasting of condition of heliosphere, magnetosphere and atmosphere of the Earth, developing of nuclear-physics equipment for solar-terrestrial physics studies, experimental data processing and analysis.

Objects of the professional activity: Detectors and assemblies for cosmic ray variations studies, satellite and ground-based observations databases, experimental facilities and automated systems for experimental data collection and processing, Earth's heliosphere, magnetosphere and atmosphere theoretical models, modern methods for multidimensional data processing, mathematical methods for images and hidden regularities recognition.

Brief description of the curriculum: Master program combines academic studies and scientific work in real conditions of modern physics experiment. Master students take part in current research, in experimental data processing and analysis, in physics data collection. Master program enables graduates to carry out research in different fields of solar-terrestrial physics, and also in adjacent areas such as Solar physics, astro- and cosmophysics. Part of the curriculum is also implemented in English.

The base of industrial and/or scientific practice and employment: Master students have scientific practice mainly in NEVOD scientific facility. Graduates usually employed by Russian academic centres, RAS institutions and by other organisations.

Specializations within this programme

Nuclear Physics and Technology

Objects of the professional activity: Detectors and assemblies for cosmic ray variations studies, satellite and ground-based observations databases, experimental facilities and automated systems for experimental data collection and processing, Earth's heliosphere, magnetosphere and atmosphere theoretical models, modern methods for multidimensional data processing, mathematical methods for images and hidden regularities recognition.