

Direction: 14.04.02 Nuclear Physics and Technologies

High energy physics and astrophysics

Annotation:

The connection between particle physics and astrophysics increases significantly with increasing energy of the studied processes and phenomena. The purpose of this program is to trace and justify this relationship. In frame of the courses included in this program, methods and results obtained in particle physics at modern accelerators and in astrophysics at modern astrophysical detectors will be analyzed. Information about various astrophysical objects and processes occurring in them is obtained by recording and analyzing various types of radiation (cosmic rays, gamma-radiation, neutrino radiation, gravitational waves). Students who master this program will receive the necessary qualification for successful work in a wide field of physics, called as Astroparticle physics.

Science internships:

Students can undergo practical training at MEPhI, Scientific & Educational Centre NEVOD (MEPhI), and at different Russian and international research centers, such as Research Center "Kurchatov Institute", Institute for High Energy Physics (Protvino), Joint Institute for Nuclear Research (Dubna), Institute for Nuclear Research of the Russian Academy of Sciences, Alikhanyan National Science Laboratory (Armenia), FI Academy of Sciences, the European Organization for Nuclear Research CERN (Switzerland), DESY (Germany), International Collaboration IceCube, etc.