<table>
<tr><td colspan="5">Level: master</td></tr>
<tr><td colspan="5">Course title: Advanced nuclear physics</td></tr>
<tr><td colspan="5">Status: obligatory</td></tr>
<tr><td colspan="5">ECTS: 8</td></tr>
<tr><td colspan="5">Requirements: Nuclear physics</td></tr>
<tr><td colspan="5">Learning objectives
Introducing students to the methods of modern nuclear physics, together with rare nuclear processes.</td></tr>
<tr><td colspan="5">Learning outcomes
Gaining knowledge about methods of modern nuclear physics, which are applied in the research field of nuclear physics and the study of rare nuclear processes.</td></tr>
<tr><td colspan="5">Syllabus
Methods of modern nuclear physics (Coulomb excitation, Spectroscopy of neutron capture, Measurement of half-life of excited states of nuclei, Angular correlation of nuclear radiation, Low-temperature nuclear orientations, In beam spectroscopy).
Rare nuclear processes (Proton radioactive decay, The mass and interactions of neutrino, Double beta decays, The problem of Solar neutrinos, Neutrino oscillations, Excitation and deexcitation of isomeric states, The LEGINT process, Cluster radioactivity.</td></tr>
<tr><td colspan="4">Weekly teaching load</td><td>Other:</td></tr>
<tr><td>Lectures: 3</td><td>Exercises: 1</td><td>Other forms of teaching: 3</td><td>Student research:</td><td></td></tr>
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