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| Level: PhD | | | | |
| Course title: Nuclear spectroscopy | | | | |
| Status: elective | | | | |
| ECTS: 15 | | | | |
| Requirements: Modern experimental physics III, Nuclear Physics | | | | |
| Learning objectives To teach the students about the basic principles of nuclear spectroscopy. | | | | |
| Learning outcomes Students should be familiar with the principles of nuclear spectroscopy and therefore trained to apply this knowledge in practice. | | | | |
| Syllabus Low level gamma spectroscopy (components of the radiation from the environment, passive reduction of background , active reduction of background, coincident techniques). Alpha and beta spectroscopy (fabrication of sources, vacuum systems, low level counting, Čerenkov spectrometers, magnetic spectrometers, solid trace detectors). Neutron spectroscopy (recoil techniques, flight time measurement, diffraction on crystals, the techniques of nuclear reactions). Calibration of nuclear spectrometers. Applications of nuclear spectroscopy. | | | | |
| Weekly teaching load | | | | Other: |
| Lectures: 4 | Exercises: | Other forms of teaching: | Student research: 6 | |