

| Module title | | Abbreviation |
|---|-------------------|--------------------------------------|
| Solid State Spectroscopy 2 | | 11-FKS2-132-m01 |
| Module coordinator | | Module offered by |
| Managing Director of the Institute of Applied Physics | | Faculty of Physics and Astronomy |
| ECTS | Method of grading | Only after succ. compl. of module(s) |
| 6 | numerical grade | -- |
| Duration | Module level | Other prerequisites |
| 1 semester | graduate | -- |
| Contents | | |
| Modern scattering methods; neutron scattering as a method to investigate the atomic and magnetic structure and excitations such as phonons and magnetic waves; resonant elastic X-ray scattering and absorption; investigation of magnetic, orbital and charge order; X-ray and neutron reflectometry; investigation of the structural, magnetic and electronic properties of thin films and superlattices; resonant inelastic X-ray scattering; investigation of excitations in solids and thin films; STEM ("scanning transmission electron microscopy"); further topics upon agreement. | | |
| Intended learning outcomes | | |
| The students know different modern scattering methods such as neutron scattering, resonant elastic X-ray scattering, modern scattering theory, X-ray and neutron reflectometry and resonant inelastic X-ray scattering. They are familiar with the theoretical principles and applications of these methods. | | |
| Courses (type, number of weekly contact hours, language — if other than German) | | |
| V + R (no information on SWS (weekly contact hours) and course language available) | | |
| Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus) | | |
| a) written examination (approx. 90 minutes) or b) oral examination of one candidate each or oral examination in groups (approx. 30 minutes per candidate) or c) project report (approx. 8 to 10 pages, time to complete: 1 to 4 weeks) or d) presentation/seminar presentation (approx. 30 minutes) Assessment offered: When and how often assessment will be offered depends on the method of assessment and will be announced in due form under observance of Section 32 Subsection 3 ASPO (general academic and examination regulations) 2009. Language of assessment: German, English | | |
| Allocation of places | | |
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| Additional information | | |
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| Workload | | |
| -- | | |
| Teaching cycle | | |
| -- | | |
| Referred to in LPO I (examination regulations for teaching-degree programmes) | | |
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| Module appears in | | |
| Master's degree (1 major) Physics (2010) Master's degree (1 major) Physics (2011) Master's degree (1 major) Nanostructure Technology (2011) Master's degree (1 major) Nanostructure Technology (2010) Master's degree (1 major) FOKUS Physics (2010) Master's degree (1 major) FOKUS Physics (2011) | | |

