Module title			Abbreviation
Atoms and Quanta - Exercises			11-E-AA-152-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)**	
5	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	undergraduate	--	

Contents

Exercises in Atomic and Quantum Physics according to the contents of 11-E-OAV. Among others Structure of atoms, experimental fundamental laws of Quantum Physics, the Schrödinger equation, quantum mechanics of the hydrogen atom, atoms in external fields, multi-electron atoms, optical transitions and spectroscopy, laser, molecules and chemical bonding, molecular rotations and vibrations, etc.

Intended learning outcomes

The students understand the basic principles and contexts of quantum phenomena as well as Atomic and Molecular Physics. They are able to mathematically formulate physical contexts of Atomic and Quantum Physics and to autonomously apply their knowledge to the solution of mathematical-physical tasks.

Courses (type, number of weekly contact hours, language — if other than German)

Ü (2)
Module taught in: Ü: German or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

written examination (approx. 120 minutes)
Language of assessment: German and/or English

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

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Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module appears in

Bachelor' degree (1 major) Physics (2015)
Bachelor' degree (1 major) Nanostructure Technology (2015)