

## Module description

Module title					Abbreviation
Atoms and Quanta - Exercises 11-E-AA-152-mo1					
Module coordinator				Module offered by	
Manag	ing Dir	ector of the Institute of Ap	plied Physics	Faculty of Physics and Astronomy	
ECTS Method of grading		od of grading	Only after succ. compl. of module(s)		
5	nume	rical 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					
<b>Method of assessment</b> (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					
Additional information					
Workload					
150 h					
Teaching cycle					
Referred to in LPO I (examination regulations for teaching-degree programmes)					
Module	e appea	ars in			
Bachel	or' deg	ree (1 major) Physics (20:	15)		

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