## Module title

**Atoms and Molecules - Exercises**

### Abbreviation

11-E-AA-202-m01

### Module coordinator

 Managing Director of the Institute of Applied Physics

### Module offered by

Faculty of Physics and Astronomy

### ECTS

5

### Method of grading

Numerical grade

### Only after succ. compl. of module(s)

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### Duration

1 semester

### Module level

Undergraduate

### Other prerequisites

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### Contents

Exercises in atomic and quantum physics according to the knowledge provided by 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

Students have an understanding of the fundamental interrelationships and the fundamental laws of quantum phenomena, atomic and molecular physics. They will be able to formulate physical interrelationships of atomic and quantum physics mathematically and apply their knowledge in solving mathematical-physical tasks autonomously.

### Courses

- Ü (2)

  Module taught in: German or English

### Method of assessment

- 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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### Referred to in LPO I

(examination regulations for teaching-degree programmes)

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### Module appears in

Keinem Studiengang zugeordnet