PHYS-501 **Nonlinear Optics**

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Cursus	Sem.	Type
Microtechnics	MA1, MA3	Opt.
Photonics minor	H	Opt.
Photonics		Obl.

Language of teaching	English
Credits	3
Session	Winter
Semester	Fall
Exam	Written
Workload	90h
Weeks	14
Hours	**3 weekly**
Courses	2 weekly
Exercises	1 weekly
Number of positions	

Summary

Basic principles of optics

Content

A selection of the following topics will be offered:

- Introduction / overview of nonlinear optical phenomena
- Wave description of nonlinear optical processes
- The intensity dependence of the refractive index
- Spontenaous and stimulated light scattering processes
- Electrooptic and photorefractive effects
- Optically induced damage
- Ultrafast Nonlinear processes

Keywords

nonlinear optics, second and third harmonic generation, optical fibers, solitons

Learning Prerequisites

Recommended courses

Basics of optics

Assessment methods

Written exam