ENG-601(2)

Light sources: optical fiber and waveguide lasers (2010)

Limberger Hans Georg

Cursus	Sem.	Type
Photonics		Obl.

Language of teaching	English
Credits	2
Session	
Exam	Oral presentation
Workload	60h
Hours	**28**
Courses	19
TP	9
Number of positions	**12**

Frequency

Every 2 years

Remark

Next time Fall 2017, maximum 12 participants

Summary

Spectra of rare earth ions, Intra-ionic processes, inter ionic interaction...

Content

- Spectra of rare earth ions, Intra-ionic processes, inter ionic interaction
- Materials and waveguide fundamentals (planar and circular)
- Basics of lasers and amplifiers, pump and resonator geometries
- Bragg grating fiber lasers
- Pulsed fiber lasers
- Upconversion lasers and non-linear waveguide lasers
- Waveguide laser zoo
- hands-on on fiber splicing and handling, fiber, fiber laser characterization
- visit of Swiss fiber manufacturer (optional)

Note

Maximum 12 participants
3h course per week from October 8 to December 3, 2015 plus one day in the lab (October 16, 23 or 30).

Keywords

Lasers, waveguides, optical fibers, resonators

Learning Prerequisites

Recommended courses

- Basics in physics (electrodynamics, waves, atomic physics)
- Basics in optics (lightwave, diffraction, lasers)

Resources

Websites

- http://ioa.epfl.ch