Continuing Education
Formation Continue

CO5 | Thin layers optics: introduction



LEVEL: BASIC

Audience: Senior technicians or engineers wishing to specify, design, realize, characterize or use optical thin film components

Prerequisites: None

Pedagogical manager(s): Franck Delmotte - Enseignant-chercheur à l'Institut d'Optique

Language of the training: French

Maximum capacity: 12

Price: 1100€ HT - **Duration:** 2 days - 14 h

Objectives

- Understand the physical principles of optical components based on thin layers
- Learn to establish a specification for the different optical thin film components
- Design stacks of thin optical layers for simple functions
- Estimate the robustness of a component with respect to experimental errors and associated production efficiency
- Choose an appropriate filing or characterization method to address a specific problem

Next sessions

- 15 june 2021 au 16 june 2021 - Palaiseau

Addressed topics

Fundamental principles of thin optical layers
Optical functions: Anti-glare, multi-dielectric mirrors, filters, dichroic, separators, polarizers
Thin film deposition technique (PVD and CVD methods)
Characterization methods for optical thin films

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The program

Fundamentals of optical thin films
- Calculations of optical properties of thin films
- Thin film deposits: comparison of the main methods
- Optical thin film analysis techniques

Optical thin film coatings design
- Materials for subtrates and thin layers
- The main optical thin film components
- Specification and optimization of optical coatings
- Control of optical coatings

Put into practice with simulation software
- Numerical simulation of the main optical functions
- Optimization of optical thin film coatings to meet specifications

Methodology and assessment

Lectures and exercises
Practical work on a computer and visit of a of Thin Layer Optics laboratory

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