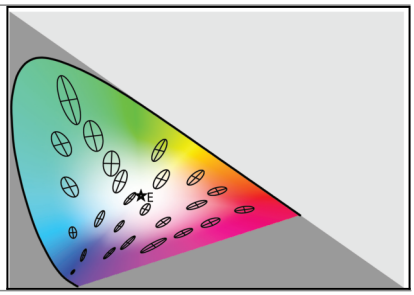
INSTITUT d'OPTIQUE GRADUATE SCHOOL | Continuing Education
Formation Continue

EF5 | Colorimetry



LEVEL: BASIC

Audience: Technician and engineers who need to use colorimetry concepts and/or colorimeters

Prerequisites: Basic knowledge in radiometry and spectroradiometry (quantity and units...) may be useful but a reminder is proposed at the begining of the training

Pedagogical manager(s): Hervé Sauer - Enseignant-chercheur à l'Institut d'Optique

Language of the training: French

Maximum capacity: 12

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

Objectives

- Understanding the fundamentals of color perception in human vision
- Mastering CIE colorimetry (XYZ, xy, L*a*b*, L*u*v*, u'v'... spaces and coordinates)
- Understanding color measurement principles and manipulating different kinds of colorimeters
- Discovering the notions of illuminants, correlated color temperature, etc.

Next sessions

- 01 april 2019 au 02 april 2019 - Palaiseau

Addressed topics

Photometry and spectroradiometry.
Physiological fundamentals / Grassmann laws
CIE 1931 and 1964 color matching functions, XYZ space, xy chromatic coordinates, ...
CIE 1976 Uniform Color Spaces (CIELUV, CIELAB)
Light sources and standardized illuminants, ...

EF5 | Colorimetry

The program

Introduction on photometry and spectroradiometry
Colorimetry fundamentals:

- Physiological foundations, Grassmann laws, CIE 1931 standard observer and XYZ standard

Additive and subtractive color mixing
Color measurements:

- standardized measurement geometries, colorimeter and spectrocolorimeter principles

More advanced notions:

- CIE 1964 standard observer, CIE 1976 Uniform Color Spaces, sources and illuminants, CCT, CRI...

Methodology and assessment

Lectures and exercises (tutorials)
Live show of colorimetry measurements with real instruments
Lab works with commercial instruments