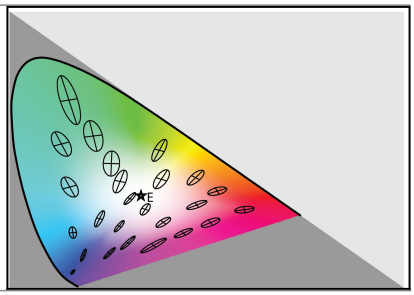
Continuing Education
Formation Continue

EF5 | Colorimetry



NIVEAU : BASIC

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

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

Responsable(s) pédagogique(s) : Hervé Sauer - Enseignant-chercheur à l'Institut d'Optique

Langue de la formation : French

Capacité maximum : 12

Prix : 1100€ HT - **Durée :** 2 days - 14 h

Objectifs

- 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.

Thèmes abordés

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, ...

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Le programme

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...

Méthodologie et évaluation

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

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