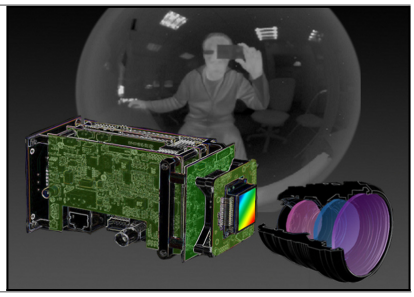
INSTITUT d'OPTIQUE GRADUATE SCHOOL | Continuing Education
Formation Continue

SC11 | Design of infrared cameras



NIVEAU : SPECIALIZED

Publics : Engineers of companies and administrations involved in defense, surveillance, aerospace or astronomy applications, wishing to master the analyse and the design of infrared cameras

Prérequis : Basic knowledge corresponding to EF2 - Basics of optics

Responsable(s) pédagogique(s) : Isabelle Ribet - Experte Onera, enseignante à l'Institut d'Optique

Langue de la formation : French

Capacité maximum : 12

Prix : 1820€ HT - **Durée :** 4 days - 28 h

Objectifs

- Have an overview of the problematic of infrared cameras design
- Discover the key parameters associated to this design
- Discover the state-of-the-art of components and modules
- Be able to specify, design and evaluate infrared cameras (cooled or uncooled)

Thèmes abordés

Infrared radiometry
- Thermal infrared

Infrared detectors
- Characterization, main technologies (cooled or uncooled)
- Proxy electronics
- Cryogeny

Dimensioning of an infrared system, link budget
- Design of an infrared system, performance predictions
- Infrared image visualisation

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Le programme

Infrared detection
- Thermal infrared
- Infrared detectors: principles
- Infrared technologies (cooled and uncooled)
- Proxy electronics
- Infrared detectors characterisation

Design of an infrared system
- Design of infrared optics
- Infrared image visualisation
- Design of an infrared system
- Performance prediction
- Exercice: design of a cooled infrared camera

Labwork
- Characterisation of a cooled photodiode
- Characterisation of an uncooled camera

Méthodologie et évaluation

Lectures and exercices
Interactive demonstrations
Labwork

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