1SC2610 – Physical models for radar and optical image analysis

Instructors: Laetitia Thirion-Lefevre, Regis Guinvarc'H
Department: DÉPARTEMENT PHYSIQUE
Language of instruction: FRANCAIS
Campus: CAMPUS DE PARIS - SACLAY
Workload (HEE): 40
On-site hours (HPE): 22,50

Description

The observation of the Earth using spaceborne or airborne sensors is a rather recent topic, which has recently known an exceptional development as it plays a major role for the environmental and safety challenges we have to face. What is the speed of ice melt at North Pole ? How many refugees are present in camps ? What is the extent of oil palm plantations ? Could we survey the rise of sea level?

Quarter number
ST2

Prerequisites (in terms of CS courses)
none

Syllabus
1/ Propagation and remote sensing
2/ Radar sensors
3/ Other types of sensors (optical and hyperspectral)
4/ Classification and inversion
5/ Change detection

Class components (lecture, labs, etc.)
5 lectures (90 min each), 9 tutorials (90 min each), one 90 min final examen

Grading
Continuous assesment and final exam One final written examination of 1h30 with document Weighting: 50% continuous assesment and 50% final exam.
Sub-skill C1.1 and C1.2 are evaluated in two questions of the final exam. If the average mark of the 2 questions is above 50%, then C1 is validated.

Course support, bibliography

Lecture notes and reference textbook available on the Learning Management System.

Resources

• Faculty members for lectures : Laetitia Thirion-Lefevre (CS), Régis Guinvarc'h (CS) and Elise Colin-Koeniguer (ONERA)
• Size of tutorial classes : 35 students.