

UE Antennas and Electromagnetic Compatibility



Niveau d'étude
Bac +5



ECTS
3 crédits



Composante
UFR Physique,
Ingénierie,
Terre,
Environnement,
Mécanique
(PhITEM)



Période de
l'année
Automne (sept.
à dec./janv.)

Diplômes intégrant cet élément

- Master Electronique, énergie électrique, automatique

- › Langue(s) d'enseignement: Français
- › Ouvert aux étudiants en échange: Oui
- › Code d'export Apogée: PAX9GIAP

Présentation

Description

The goal of this teaching module is to understand the electromagnetic radiation mechanisms.

This teaching module will be divided into 2 parts

- Antennas – 16 hours – 2 ECTS

The aim is to understand how to design and characterize antennas. The following contents will be studied:

- Radiation of a dipole
- Main antenna parameters: radiation pattern, directivity, ...,
- Antennas such as microstrip patch, Antennas network, beamsteering/beamforming antenna array

- Signal integrity – 10 hours – 1 ECTS

Basic principles will be explained such as:

- Digital signals: spectral distribution of signals and knee frequency, rise time, overshoot, ringing, crosstalk
- Transmission lines modelling
- Coupling, crosstalk (amplitude, delay), SSN, substrate coupling
- Packaging (processes, single and hybride dies, influence of the package)

Heures d'enseignement

CM	CM	16h
TD	TD	10h

Période : Semestre 9

Infos pratiques

Lieu(x) ville

➤ Grenoble

Campus

➤ Grenoble - Polygone scientifique