Graphene and beyond

ECTS
5 crédits

Hourly volume

Introducing

Description

Objectives

At the end of this module, the student understands and is able to explain (main concepts):

- the main properties of novel bi-dimensional materials such as graphene or transition metal dichalcogenides.

- the fabrication techniques derived from micromechanical cleavage from a mother material and the manipulation of these objects at the micrometer scale.

- the concepts and experimental methods aiming at the electrical addressing of these objects using e-beam lithography

- the electronic properties of these materials, as well as their potential for future applications.

The student will be able to:

- produce an experimental device involving a bi-dimensional material.

- measure the electronic properties of the fabricated device

- discuss the experimental results and propose further improvements when applicable.

Necessary prerequisites

Master 1 in Physics, Applied Physics, Chemistry or Material Science or equivalent

Évaluation

L'évaluation des acquis d'apprentissage est réalisée en continu tout le long du semestre. En fonction des enseignements, elle peut prendre différentes formes : examen écrit, oral, compte-rendu, rapport écrit, évaluation par les pairs...

Practical info

Location(s)

Toulouse