

Experimental techniques in acoustics

ECTS

3

Mots clés

Description du contenu de l'enseignement

Objectives

The objective of this course is to give the students the opportunity to perform an experimental project in acoustics and thus, getting familiar with the main issues and techniques used in acoustical experiments.

Contents

Initiation to sensors, actuators data acquisition chain and basic signal analysis issues in acoustics. Each group of 2 students (or in some cases 3) will perform a particular micro-project in one of the fields taught in the acoustics curriculum.

Compétences à acquérir

Compétences

- Defining what to do for reaching a given scientific objective.
- Choosing and setting up the equipment.
- Performing measurements and analyzing their quality.
- Identifying the appropriate techniques and signal processing methods for observing a given acoustical phenomenon.
- Reporting: description of the the experimental apparatus and signal processing, presenting the results in a critical manner.

Compétences complémentaires

- Working in team within a project framework,
- writing a research report
- preparing a presentation in English,
- using and developing numerical codes.

Modalités d'organisation et de suivi

Coordinateur

Xavier BOUTILLON, École polytechnique

Équipe pédagogique

Benjamin COTTÉ (UME, ENSTA-ParisTech), Marc RÉBILLAT (PIMM, ENSAM-ParisTech), Alain LHÉMERY (CEA)

Langue

Anglais

Volume horaire

CM : 3h, TP : 27h, homeWork : 20h

Période et lieu(x) enseignements

Période

B

Lieu

Depends on each project

Mode de contrôle des connaissances

Written and oral reports on the micro-project