

UE Linear dynamical systems



Niveau d'étude
Bac +4



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: Anglais
- Ouvert aux étudiants en échange: Oui
- Code d'export Apogée: PAX7ECAC

Présentation

Description

In this module, we will lay the foundations for the control of linear systems in the continuous-time as well as in the discrete-time. In the continuous-time case, we will consider the time domain as well as the frequency domain. After a brief introduction, the following concepts will be addressed: transfer function, state-space representation of linear and nonlinear systems, linearization, Linear Time invariant (LTI) and Linear Time variant (LTV) systems, Input-Output stability.

Objectifs

Objectives:

The purpose of this module is to lay off the bases of control for linear systems in continuous-time as well as in discrete-time case. At the end of this class the students will be familiar with the concepts of: state-space representation, linearization, time

invariance, input response, transfer function of state-space systems, input-output stability. C. Prieur and M. Fiacchini will later use these concepts in their advanced control classes.

Heures d'enseignement

CMTD

Cours magistral - Travaux dirigés

25h

Pré-requis recommandés

Laplace Transform, Bode plot, block diagram representation, Vector and matrix operations, P/PI/PID control.

Période : Semestre 7

Infos pratiques

Campus

➤ Grenoble - Polygone scientifique