

Control of multivariable systems

Number of ECTS credits: 6

Coefficient: 6

Description:

Introduction to the Control of multivariable systems: state models, choice of a model

Continuous state representation of stationary linear systems: concept of state, choice of state variables (canonical forms), resolution of equations of state, performances

Discrete state representation of stationary linear systems: introduction to numerical regulation, discretization of a continuous state model, resolution of discrete state equations

Control of multivariable continuous and discrete systems: controllability, observability, feedback control, observer /

reconstructor, system correction

Pedagogical objectives:

At the end of this course, the student is able to model a continuous or discrete multivariate system, to synthesize his command by return of state with or without observation.

Bibliography: Prerequisite:

Time analysis of linear systems; Elementary theory of enslavements and their correction

Lectures Hours: 27

Tutorials Hours: 14.5

Labs Hours: 16

Knowledge monitoring modalities: 100% continuous assessment

Assessment: Reports of labs, exam

Leader: Redwan DAMOUCHE

Participants: