Multidimensional Systems

Component
École Nationale Supérieure d'Électrotechnique d'Électronique

In brief

> **Ametys Code:** N9EE16C
> **Open to exchange students:** Yes

Presentation

Objectives

Know how to analyze problems specific to multi-input and multi-output systems in terms of their representation and control. Know how to formulate the state representation and analyze the observability and controllability of the system.

Description

Representations of multidimensional systems: coupled differential equations, transfer matrix.

- Controllability and observability of multidimensional systems.

- Searching for a state representation of a multidimensional system from a transfer matrix: Gilbert's method, invariant method, rank 1 matrix decomposition.

- Control design: pole placement, canonical decomposition, eigenvector placement, state feedback, output feedback.