



AUTOMATIQUE LINÉAIRE

LINEAR CONTROL

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| Lecturers : 12 | TC : 14 | PW : 4 | Autonomy : 0.0 | Study : 2 | Project : 0.0 | Language : FR

Objectives

This course aims to identify the common features of any linear control problem: the choice of instrumentation, the expression of the specifications and the choice of the control structure. Analysis and resolution procedures are presented with pole placement (including RST control) and frequential analysis.

Keywords : Structure and Control laws, SISO Process, pursuit and regulation, reference model, pole placement, RST, frequential analysis

Programme

- Problematics
- From specifications to reference model
- Regulators implementation
- Empirical methods
- Modelisation, a survey
- Pole placement design
- Frequential design

Learning outcomes

- To formulate a control problem from its specifications
- To predict process temporal behaviour from poles position
- To elaborate a mere control law allowing pole placement ou frequential properties
- To implement a numerical regulator from his continuous transfer

Independent study

Objectifs :

Méthodes :

Core texts

Philippe de LARMINAT, *ANALYSE DES SYSTÈMES LINÉAIRES*, Editions Hermès, 2002
Philippe de LARMINAT *AUTOMATIQUE, COMMANDE DES SYSTÈMES LINÉAIRES*, Editions Hermès, 1993
L. MARETRÉ *RÉGULATION AUTOMATIQUE*, Presses Polytechniques Romandes, 1987

Assessment

Final mark = 90% Knowledge + 10% Know-how (Knowledge = 80% final exam + 10% TD preparation + 10% microtest / Know-how = TP + synthesis classroom)