

Vibration of Mechanical Systems

Vibration mechanics

IDENTIFICATION

CODE : GM-3-S2-EC-MVIB
ECTS : 3.0

HOURS

Lectures : 10.0 h
Seminars : 22.0 h
Laboratory : 8.0 h
Project : 0.0 h
Teacher-student
contact : 40.0 h
Personal work : 40.0 h
Total : 80.0 h

ASSESSMENT METHOD

TEACHING AIDS

TEACHING LANGUAGE

French

CONTACT

Unknown

AIMS

Vibrations phenomenologia. Be able to establish the linear equations of the movement of a mechanical system in vibration, be able to calculate the modal scheme and the response to an excitation using modal basis.

CONTENT

Equations for 1, N degrees of freedom. Transfert and impulsional function, modal schema. Forced sinusoidal response, free responses. Introduction to continuous system. Use of the eigenmode basis for calculating a structural response. Characterization of modal or proportional viscous damping. Introduction to the dynamics of continuous systems. Implementation of a measurement chain to characterize the dynamics of structures

PRE-REQUISITE

Matrix calculation , linear algebra and eigen value problems

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