

Finite element methods



Component

École Nationale
Supérieure
d'Électrotechnique
d'Électronique
d'Informatique
d'Hydraulique
et des
Télécommunications

In brief

- **Ametys Code:** N8EE20D
- **Open to exchange students:** Yes

Presentation

Objectives

Approximate solution of partial differential equations using the finite element method, applied to physical problems frequently encountered by electronic engineers.

Description

Principles of finite elements

Variational formulation

Basis functions and discretization

1D and 2D meshes

Solution.

Application BE using the Matlab PDE toolbox on problems related to electronics (semiconductor physics, waveguides)

Pre-requisites

EDP course using finite differences, 1st year EEEA