

High Performance Computing



Component
École Nationale
Supérieure
d'Électrotechnique
d'Électronique

In brief

- **Ametys Code:** N9EE33A
- **Open to exchange students:** Yes

Presentation

Objectives

To supplement the knowledge of linear algebra covered in S8 and introduce more recent numerical calculation methods for solving large-scale problems.

Description

- Iterative methods for solving linear systems:
 - o Richardson
 - o Krylov spaces: conjugate gradient, GMRES
- Low-rank methods for dense matrices
 - o Multipole methods, Adaptive Cross Approximation
 - o Hierarchical matrices
- Tensors
 - o Definitions and basic concepts

- o Storage format: CP, Tucker, Tensor-Train

Pre-requisites

Linear Algebra Course S8-EEEE