

## Chapitre 9 : Equations différentielles

# Introduction à l'analyse numérique

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## Video



# Chap 9 - Equations différentielles

- Equations différentielles du 1<sup>er</sup> ordre
  - position du problème
  - théorème 9.1 (existence) 9.1
  - problèmes numériquement mal posés 9.2
  - schémas d'Euler 9.3
  - schémas d'ordre supérieur
- Systèmes différentiels du 1<sup>er</sup> ordre 9.6



Hello and welcome to chapter 9: differential equations. In this course, we'll only introduce numerical methods for differential equations. There are entire books dedicated to this subject. I will mainly talk about differential equations of first order. I will state the problem, and will give an existence theorem, without proof. We'll talk about problems which are numerically ill-posed. Then the main part, Euler methods, forward and backward, which are order one schemes. We won't talk about higher order schemes, but we'll generalize the Euler methods to differential systems of first order.

Notes

Summary



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