

# FYS3150 Project 4

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## Contents

<b>1</b>	<b>Mathematical theory</b>	<b>2</b>
1.1	Forward Euler . . . . .	2
1.1.1	Derivation . . . . .	2
1.1.2	Error analysis . . . . .	2
1.2	Backward Euler . . . . .	2
1.2.1	Derivation . . . . .	2
1.2.2	Error analysis . . . . .	2
1.3	Crank-Nicolson . . . . .	2
1.3.1	Derivation . . . . .	2
1.3.2	Error analysis . . . . .	2

## Abstract

Hei.

# **1 Mathematical theory**

## **1.1 Forward Euler**

### **1.1.1 Derivation**

### **1.1.2 Error analysis**

## **1.2 Backward Euler**

### **1.2.1 Derivation**

### **1.2.2 Error analysis**

## **1.3 Crank-Nicolson**

### **1.3.1 Derivation**

### **1.3.2 Error analysis**