

Bachelor/Seminar Thesis

Adjoint state method for optimization problems

Motivation

In optimization problems, we are often faced with the problem that we do not have a differentiable objective function. This means that we cannot directly compute the derivatives of the objective function to be minimized. To this end, numerical methods are used to approximate the derivatives. The adjoint state method is an efficient numerical scheme for the computation of gradients.

Research Questions

The goal of this work is to learn and understand the intricacies of the method. It also aims to implement and apply the method to validation problems. In the end, the final product should give a good introduction with nice examples to the method for all novice users.

Tasks

- Literature research/learning
- Implementing the method and testing on validation problems

Prerequisites

- Language : German/English
- Programming skills : Beginner
- Study : ET, ICE, ET-Toningenieur

Contact/Supervisor

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