

# Simulation of dissipative waves

Project for Bachelor Thesis

October 1, 2013

Supervisor: Richard Kowar

[richard.kowar@uibk.ac.at](mailto:richard.kowar@uibk.ac.at)

Applied Mathematics Group

<https://applied-math.uibk.ac.at>

## **Project Description**

The first goal is to learn essential properties of the dissipative wave equation of Nachman, Smith and Waag and the relaxation processes that take place during the wave propagation.

In contrast to the majority of dissipative wave models, the solution of this equation has a finite wave front speed. Secondly, the properties of such waves should be investigated and visualized via numerical simulations of 2D-dissipative waves with MATLAB. Finally, the wave equation of Nachman, Smith and Waag should be compared with the standard pressure wave equation.