

# Digital Image Correlation for Fracture in Core Samples

## Setting:

Fracture in geological rock is a complex process. To generate new insights into the fracture behavior, a combination of experiments and simulation of uni-axial compression tests on core samples is used. For validation of the numerical model the experiments were recorded using a high-speed camera (Fig. 1).

The goal of this project is to implement a software tool for an analysis of the generated movies with digital image correlation.

## Your Tasks:

Implement a software tool that

- uses digital image correlation to calculate displacements and strains
- allows for a precise location of fracture initiation and propagation

### Project Characteristics

Modeling:	☆☆☆☆☆
Mathematics:	★★★★☆
Programming:	★★★★★
Science:	★★★★☆

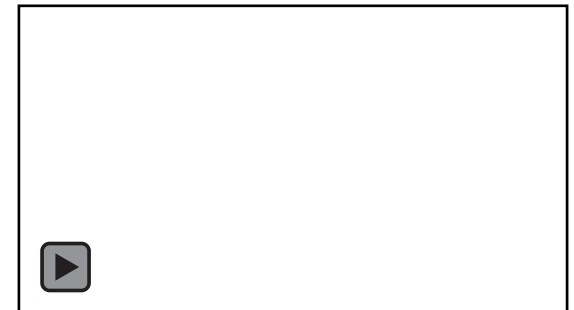


Fig. 1: Recording of the fracture process.