



EVALUATION OF MOOSE FOR INDUSTRIAL APPLICATION

Problem Description

- Not all hilti relevant problems can be solved efficiently with commercially available FE Solvers.
- Especially problems involving fracture mechanics can benefit from the advantages of an open-source finite element solver.
- The goal of the thesis is to gain first experiences with the finite element solver MOOSE for industrial application.

Objectives & Tasks

- Investigate the open-source, parallel finite element framework MOOSE for industrial application with respect to:
 - Pre- and post-processing
 - Performance (speed, parallelization)
 - Robustness of the solver w.r.t.:
 - Non-linear material models, e.g. mises plasticity.
 - Contact problems
- Together, a number of benchmarks will be performed and compared to e.g. LS-Dyna.

