Master Thesis

Damage Mechanics with GISSMO

The Generalized Incremental Stress-State dependent damage MOdel (GISSMO) is a model that allows the representation of damage and fracture in finite element simulations. It is state of the art in car crash simulations. The aim of this thesis is to understand the mechanisms and the physical principles GISSMO is based on. Furthermore, GISSMO should be implemented into a finite element simulation and tested using a tensile test.

The specific tasks are

- Literature review on GISSMO
- Understand how GISSMO works in practical applications, e.g. by exploring it in LS-DYNA
- Implementation of GISSMO in a finite element simulation
- Comparison of results with the implementation of GISSMO in LS-DYNA

Recommended fields of interest
Finite element simulation, damage mechanics, LS-DYNA, basic knowledge of German would be a plus because the main source [1] is in German

Literature