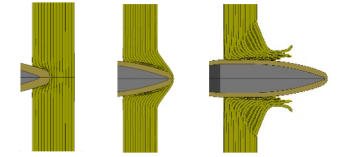


Structural integrity under extreme load



Topic: In-depth investigations on composite materials

•**TITLE:** Efficient numerical method for replicating mechanical behaviours of cloth-like composite materials

•**RESEARCH BACKGROUND:**

•The brittle matrix is believed to hinder the energy absorption of fabric -> applications that exploit a soft matrix (thermoplastic vs thermoset). However, numerical investigations on soft-matrix-based composite materials are of great importance for further applications.

•**RESEARCH ACTIVITIES:**

1. Review and investigate numerical methods for large deformation cases
2. Develop related material models for soft/low-density materials
3. Analyse the mechanical properties of cloth-like composites based on numerical-experimental comparison

•**METHODOLOGY:** Numerical – Analytical

•**DURATION:** 6-9 months

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