Associate Professorship of Computational Mechanics and Professorship of Wood Technology
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A toolbox for material characterization

Setting:

A correct material description of the underlying material in the FE simulation is a key enabler to use the full lightweight potential of different alloys such as magnesium or aluminum. In order to fully cover the complex behavior of an elasto-plastic crashworthiness simulation an elaborate experimental program has to be conducted, covering asymmetric hardening behavior in tension-compression, anisotropic hardening and strain rate dependency for both hardening and fracture among others.

Your Tasks:

- Evaluation of big amounts of experimental test results and storing them in a database
- Visualization and comparison of the results from different experiments as well as materials
- Integration of an optimization routine for the parameter fitting for predefined material models

Project Characteristics

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

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