University of Stuttgart
Germany

Institute of Mechanics, Structural Analysis and
Dynamics of Aerospace Structures
Prof. Dr.-Ing. Tim Ricken

Model Reduction for Deformable Porous Materials of Thin Structure

Motivation

- Reduce computational complexity of classical models using natural properties like thin structure of material or high variations in physical quantities.
- Investigate the effect of changing the paramters of a fluid-saturated porous material on its behavior.

Possible topics (Bachelor or Master thesis)

- Numerical comparison between different model reduction approaches
- Extension of already existing model reduction approaches
- Proposing new ideas for reducing models complexity
- Numerical validation of new proposed or extended reduced models
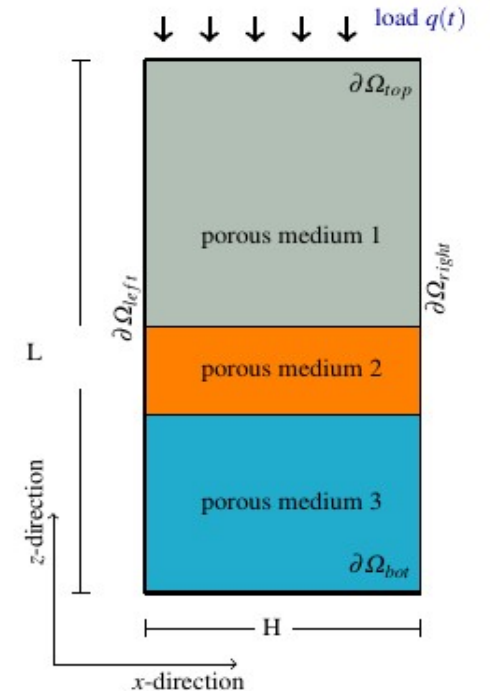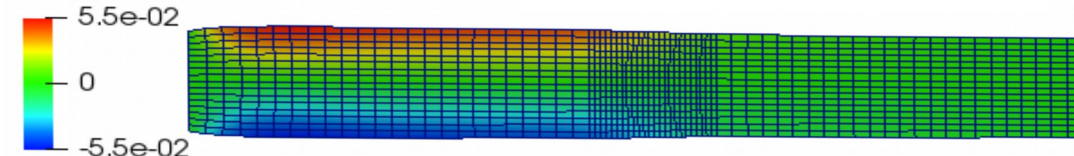

Prior knowledge of the following is of advantage:

- Fluid dynamics and/or solid Mechanics
- Numerical simulation and FEM
- Programming experience

Editor:
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