

Research Project/Study Project and if necessary Master-/Bachelor-/Dipl.-Thesis

Multibody Modelling of Warp Knitted Fabrics



Within the framework of the cooperation with the ITM/TU Dresden, the Chair of Dynamics and Mechanism Design conducts research in the field of textile machine simulation. Besides the modelling of the machine, the modelling of the textile structures is in focus. For a student project or thesis the following task steps are planned:

- *Building up of a unit cell of warp knitted fabrics of the type jersey closed*
 - *Modelling of the structure based on SIMBEAM in the multibody simulation environment SIMPACK 2021x*
 - *as 3D-mesh-geometry and*
 - *via a corresponding simplified 2D-Topology*
 - *In-plane homogenisation of the fabrics, at least in feed-out direction in order to obtain – without experimental testing – a rheological Point-to-Point force law*
- *Feasibility studies of modelling the frequency dependent material behaviour in SIMPACK*

Start: as of now

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