

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

Kinematics of Stitch Formation on a Textile Machine



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 a thesis the following task steps are planned:

- *Analysis of experimental position data of five warp knitting elements (needles) involved in stitch formation*
- *Derivation of representative reference points*
- *Implementing the reference point related overall kinematics in the multibody simulation environment Simpack*
- *Modelling of the stitch formation process considering yarns as discrete beams additionally*
- *If necessary, complexity reduction of the stitch form. process with performance comparison of the complexity levels*
- *Prerequisites: Good knowledge in mechanics, vibration theory, mathematics, MBS software – preferably Simpack; programming experience in MATLAB; at least three years of studies*

Start: as of April 2022

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