Advances in Computational Mechanics

Der Lehrstuhl für Statik/BV und der Lehrstuhl für Numerische Mechanik/MW laden gemeinsam ein zum Vortrag

Nonlinear Finite Element and Mesh-Free Analysis and Design of Rubber Like Materials

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In this lecture, nonlinear finite element and mesh free methods that are applicable to analysis and design of rubber like materials are presented. Several numerical examples are demonstrated to validate the proposed methods.
The lecture is organized in two parts, i.e. Finite Element Analysis of Hyper-Elastic Shell Structures at Large Strains (Formulation of efficient incompressible large strain shell element using "assumed transverse normal strain", Simple "basis-free" implementation of the Ogden material, Implementation of anisotropic hyper-elastic material, Numerical Examples: including instability analysis of a bending thin-walled tube, Contact pressure analysis of "clothes" and human body) and Mesh-Free Analysis and Design of Rubber-like Materials (Formulation of extended mesh-free method using MLSA-DBF for accurate interface tracking, Numerical Examples: Extremely large strain analysis of rubber like materials with particle reinforcement, Shape-topology optimization using combined level set and extended meshfree method, Numerical Examples: Shape-topology optimization of rubber like materials undergoing large deformation).

Freitag, 14. Sept. 2007
13:30 Uhr

Seminarraum LNM
MW 1237

Für weitere Informationen: http://www.lnm.mw.tum.de/events
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