Kolloquium

UNIVERSITÄT DORTMUND

RUHR-UNIVERSITÄT BOCHUM

Mechanik

Vortragsankündigung

Referent:	**TONY LELIÈVRE** Ecole Nationale des Ponts et Chaussees, Marne-la-Vallee (France)
Thema:	**MICRO MARCO PROBLEMS: MODELISATION OF POLYMERIC FLUIDS AND OF FRACTURE IN RUBBER.**
Ort:	**Ruhr-Universität Bochum** **Raum IA 3/21**
Zeit:	**Mittwoch, den 17.12.2003** **13:00 Uhr**

Inhalt:

This talk concerns micro macro modeling in the field of mechanics. We will first give a brief overview of some recent mathematical and numerical results of micro-macro models of dilute solutions of polymers. We will discuss a model which couples the momentum equation with a kinetic description of the behavior of the polymers in the fluid, through the stress tensor. From a mathematical point of view, this model couples a partial differential equation with a stochastic differential equation. From a numerical point of view, the simulations make use of a finite element method coupled with a time discretization of the SDE, through a Monte Carlo method. Finally, we will briefly introduce a model for rubbers based on a network of springs. We will present the first results on this model, and the problems raised.

Veranstalter:
O.T. Bruhns, K. Hackl, J.F. Kalthoff, S. Reese (Ruhr-Universität Bochum)
H. Obrecht, B. Svendsen, K. Thermann (Universität Dortmund)

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