Kolloquium

UNIVERSITÄT DORTMUND

RUHR-UNIVERSITÄT BOCHUM

Mechanik

Vortragsankündigung

Referent:	**NINA KIRCHNER** Lehrstuhl für Technische Mechanik, Universität Kaiserslautern
Thema:	**A VARIATIONAL APPROACH TO MICROSTRETCH CONTINUA AND ITS APPLICATION TO ELASTOPLASTIC MATERIALS**
Ort:	**Ruhr-Universität Bochum** **Raum IA 3/21**
Zeit:	**Mittwoch, den 21.01.2004** **15:00 Uhr**

Inhalt:

Microstretch continua belong to the class of micromorphic continua introduced e.g. by Eringen [1992]. The theoretical framework to deal with these materials is called microstretch theory; it can be regarded as an extension of polar continuum theory. Microstretch theory is needed to describe materials with deformable microstructure (such as e.g. metallic foams) where the deformation is, for simplicity, restricted to isotropic expansion/compression. Extending the micropolar Dirichlet principle suggested by Steinman [1995], balance equations for microstretch continua are derived. Numerical investigations for elastic and elastoplastic material behaviour illustrate the merits gained by amending the polar theory.