

# Kolloquium



**RUHR-UNIVERSITÄT BOCHUM**

UNIVERSITÄT DORTMUND



# Mechanik

## Vortragsankündigung

- Referent:** **JULIUS KAPLUNOV**  
Department of Mathematics, University of Manchester
- Thema:** **DECAY AND RADIATION CONDITIONS  
FOR AN ELASTIC SEMI-STRIP:  
DYNAMIC ANALOGUES OF SAINT-VENANT PRINCIPLE**
- Ort:** **Ruhr-Universität Bochum  
Raum IA 3/21**
- Zeit:** **Mittwoch, den 07.01.2004  
15:00 Uhr**

**Inhalt:**

Vibrations of a semi-infinite elastic strip are considered subject to prescribed end data. In the low-frequency region decay conditions are derived that perturb the static ones corresponding to the classical Saint-Venant principle. The proposed conditions are applied to the refinement of the boundary conditions in 2D theories of plates and shells. In particular, they allow analysis of statically self-equilibrated edge loads. It is well known nowadays that 2D high-frequency counterparts of traditional plates and shell theories govern low-frequency motions excited in the vicinities of thickness resonances. To justify approximate boundary conditions for the latter radiation conditions on end data are also formulated. They ensure absence of non-radiating power solutions at thickness resonances.

**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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