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Kolloquium für Mechanik

Referee: **M.Sc. Pieter Berghout, PhD student**
Physics of Fluids Group, Max Planck Center Twente for Complex Fluid Dynamics, University of Twente, Enschede, The Netherlands

Date: Donnerstag, 26.04.2018
Time: 15:45 Uhr
Location: Geb. 10.81, Emil Mosonyi-Hörsaal (HS 62, R 153)

Title: **Direct numerical simulations of Taylor-Couette turbulence: the effect of sand grain roughness**

Abstract

In this seminar I will present direct numerical simulations (DNS) of Taylor-Couette turbulence with inner cylinder sand grain roughness. The model proposed by (Scotti 2006) is optimized to simulate a fully random rough surface of monodisperse sand grains. Taylor numbers range from $Ta = 1.0 \times 10^7 (Re_\tau = 82)$ to $Ta = 2.0 \times 10^9 (Re_\tau = 635)$ and the roughness is implemented by means of the immersed boundary method. Focus on the influence of the roughness height in the transitionally rough regime, with simulations ranging from $k_s^+ = 5$ up to $k_s^+ = 89$.

Alle Interessenten sind herzlich eingeladen.

Prof. Dr.-Ing. Bettina Frohnapfel