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Kolloquium für Mechanik

Referee: **Prof. Dr. Matthias Gerdts**
Institute of Applied Mathematics and Scientific Computing,
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Date: Tuesday, May 28, 2019, 15:45h
Location: Bldg. 10.30, EG

Title: **Convergence properties of discretizations of optimal control problems**

Abstract

Direct discretization methods for optimal control problems enjoy great popularity in solving problems in practical applications owing to their user friendliness and robustness and their ability to return results even for difficult problems with control and state constraints. Mathematically, it is desirable to support (and thus to justify) the direct discretization methods by the investigation of convergence properties of the solutions of the discretized problems to the solution of the continuous problem.
This talk will provide an overview on convergence results for problems subject to ordinary differential equations, differential-algebraic equations (DAEs), and control-state constraints. The main steps and tools, which are needed to establish convergence results, will be outlined. Herein, DAEs require an extra effort to overcome a structural discrepancy between the continuous and discrete necessary conditions.

Alle Interessenten sind herzlich eingeladen.
Prof. Dr.-Ing. Peter Betsch