

Modelbased Approaches for Control and Optimization Strategies in Automotive Engineering



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Abstract:

In the talk three different examples of model-based control design and optimization strategies are presented. At first a model based approach to design a control for a dual clutch gear box is presented. Dual clutch gear boxes are able to simulate the same functionalities than automatic transmission gear boxes without the losses of the torque converter. Secondly a cooperation project concerning to active vehicle suspension systems is presented, which include a predictive element to configure the spring-damper system of the vehicle suspension. Lastly, at the example of optimization based control of electric hybrids the approach by suitable model predictive control methods is presented.

About the Speaker:

- 1986-1991 Studying electrical engineering at University of Karlsruhe
- 1991-1995 Second studies in economy at FernUniversität Hagen
- 1996 PhD degree at University of Ulm
- 1996-2001 Assistant professor at department of measurement, control, and microtechnology at university of Ulm
- 2002-2005 Full professor at TU Ilmenau
- Since 2005 Full professor at University of Stuttgart Head of Institute for System Dynamics

