Fakultät für Mathematik und Informatik
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Einladung

von Prof. Dr. Fabian Wirth

zum Vortrag von

Prof. Dr. Christophe Prieur
Gipsa-lab, Grenoble, France

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Vortragstitel:
ISS of hyperbolic systems: application to quantized and
event-based boundary control of conservation laws

Siehe Abstract

ISS of hyperbolic systems: application to quantized and event-based boundary control of conservation laws

Prof. Dr. Christophe Prieur

Abstract: In this talk, we will consider a system of linear hyperbolic partial differential equations in closed loop with a boundary dynamic controller and in presence of boundary disturbances. The stability analysis of the nominal system and the input-to-state stability are studied by means of a Lyapunov function in an appropriate state space. The results show that this approach provides a rigorous foundation for the design of boundary controllers. Moreover the developed tools are fruitful for the synthesis of an event-based boundary controller and of a quantized boundary controller, paralleling what is known for nonlinear finite-dimensional systems.