

## Einladung zum Vortrag

der Herren Dr. Christoph Kawan (Universität Ausburg) und  
Dr. Navid Noroozi (Otto-von-Guericke Universität; Magdeburg)  
zum Thema

### **A dissipative-form small-gain theorem for infinite networks**

am Mittwoch, 23.10.2019, um 13:00 Uhr, in Raum (ITZ) SR 011

#### **Abstract**

Infinite networks capture the essence of the large-but-finite networks. Therefore, they appear naturally as over-approximations of finite but very large networks with a possibly unknown number of subsystems. Small-gain theory is widely known as an efficient tool for analysis of design of large-scale systems.

In this talk, we introduce a so-called dissipative-form (also known as sum-type) small-gain theorem providing sufficient conditions for exponential input-to-state stability of infinite networks.

The effectiveness of our result is verified via some applications including road traffic networks and bilinear systems.