



# Einladung zum Oberseminar Dynamische Systeme und Kontrolltheorie

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### Superposition theorems for input-to-output stability of infinite dimensional systems

joint work with with Sergey Dashkovskiy (University of Würzburg) and  
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Input-to-output stability (IOS) is a stability notion for control systems with outputs. IOS combines the uniform global asymptotic stability of the output dynamics with its robustness with respect to external inputs.

We characterize IOS of a general class of both continuous-time and discrete-time infinite dimensional systems in terms of weaker stability properties. Our results generalize the corresponding criteria for ordinary differential equations achieved by Ingalls et al. and those for infinite dimensional systems for which the output equals the state (Mironchenko and Wirth, 2018). This way, we investigate the relation between several stability and attractivity properties for infinite dimensional systems with outputs by providing the according implications and giving counterexamples, respectively.

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Zu diesem Vortrag laden wir Sie herzlich ein.

*gez. Sergey Dashkovskiy*