Einladung zum Oberseminar Dynamische Systeme und Kontrolltheorie

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The (ISS Lyapunov) Small-Gain Condition for Infinite Networks

Small-gain theory provides sufficient conditions for stability of interconnected systems (nnetworks"). While earlier small-gain results consider asymptotic stability or input-output stability for feedback interconnections of two systems, later small-gain results treat input-to-state stability for networks of finitely many systems, interconnected arbitrarily. These results leave the question open how to prevent the deterioration of measures of stability as further subsystems are added to an ISS network (while preserving ISS). One way to approach this question is to over-approximate a finite network by an infinite one and search for small-gain conditions guaranteeing ISS of the infinite network. In my talk, I will use this approach to find uniform versions of the known small-gain conditions and answer the posed question.

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Zu diesem Vortrag laden wir Sie herzlich ein.

gez. Sergey Dashkovskiy