ALPEN-ADRIA UNIVERSITÄT KLAGENFURT

Invitation to a Guest Lecture

Prof. Dr. Sergey Dashkovskiy
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"Stability of interconnections possessing unstable components"

S.2.05 | Friday, 13 October 2023 | 3:00 p.m.

Abstract

Stability of interconnected systems is an important research topic for practical applications and challenging from mathematical viewpoint. In most exiting approaches (Vector Lyapuniv functions, small-gain theory, passivity) it is usually assumed that each subsystem of an interconnection is stable. Then one derives sufficient conditions to guarantee that a desired stability property is preserved in case of interconnection of these subsystems. However, if one of these interconnections is not stable, these approaches cannot be used. In this talk we will speak about an approach, which allows to consider the latter case. So far this approach is limited to a rather particular case of interconnections, however possible extensions will be discussed. A comparison of this new approach with the popular small-gain theory will be also provided.

Christian Pötzsche and the Department of Mathematics look forward to seeing you at the talk!