Announcement

Seminar on Deformation Quantization

7. 7. 2023 at 2pm CEST

Seminarroom SE 30

Jochen Trumpf (ANU, Canberra)

A Non-Linear Internal Model Principle for Observers

We show that any asymptotic observer for a non-linear repeatable system on a differentiable manifold contains a full internal model of the plant. Examples of repeatable systems are controllable systems and kinematic systems. The result follows from an abstract, set-theoretic internal model principle that generalises the known results for classical LTI systems, behavioural systems, and systems described by injective co-generator signal modules (Oberst's algebraic analysis approach to system theory). At the core of the theory is the use of partially ordered set (poset) theory to generalise the classical LTI system notion of the anti-stabilizable part of a system. Most of the results in this talk were presented at the MTNS 2022 last year

Invited by Stefan Waldmann