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BAYREUTH, DEN 08.05.2024

VORTRAGSANKÜNDIGUNG

Im Rahmen unseres gemeinsamen Oberseminars

„Numerische Mathematik, Optimierung und Dynamische Systeme“

spricht

Herr **Debasattam Pal, Associate Professor**
Indian Institute of Technology (IIT), Bombay
Zur Zeit Gast am Lehrstuhl für Algebra und Zahlentheorie, RWTH Aachen

am Donnerstag, 16.05.2024 um 14:00 Uhr im Raum H 18, Gebäude NW II

über das Thema

"Gradation in controllability of multidimensional systems: a case study for 2D systems”

Abstract: Controllability of multidimensional (nD) systems is defined in terms of patchability, over distant open sets, of arbitrary pairs of trajectories. For systems described by linear constant coefficient PDEs, there are algebraic tests to ascertain controllability. One of these tests, the Hautus test, dictates that controllability is equivalent to a certain algebraic variety having its dimension to be strictly less than n-1. When this particular algebraic variety is empty, the system exhibits a special feature of admitting an observable image representation. We argue that this phenomenon is only a special case of a gradation in controllability distinguished by the dimension of the said algebraic variety. In the talk we shall explore this idea of gradation of controllability with an emphasis on the special case of n=2..

Speaker bio: Debasattam did his Masters and PhD from the Indian Institute of Technology (IIT) Bombay, India in 2007 and 2012, respectively. After spending two years in IIT Guwahati as an Assistant Professor, he joined IIT Bombay, where he currently holds the position of an Associate Professor. At present, Debasattam is visiting the Lehrstuhl für Algebra und Zahlentheorie, RWTH Aachen as a guest researcher. Debasattam’s areas of interest include algebraic-geometric analysis of n-D systems, optimal control, multi-agent systems, switched systems and dissipativity theory.

gez. Lars Grüne