FRIEDRICH-ALEXANDER
UNIVERSITÄT
ERLANGEN-NÜRNBERG

FACULTY OF SCIENCES

CHAIR IN
APPLIED ANALYSIS
FAU

PROJECTS AT THE CHAIR IN APPLIED ANALYSIS ALEXANDER VON HUMBOLDT PROFESSORSHIP

CHAIR IN APPLIED ANALYSIS ALEXANDER VON HUMBOLDT PROFESSORSHIP

Enrique Zuazua
University of Erlangen-Nuremberg

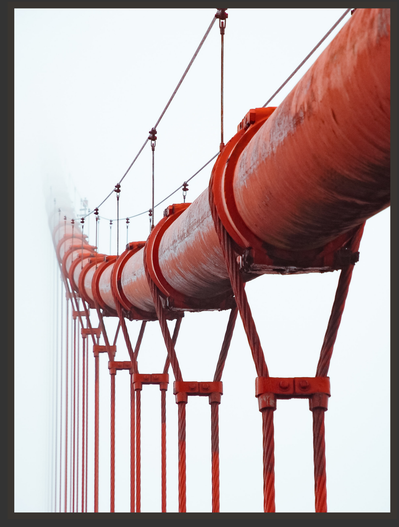
A growing group of scientists who enjoy interdisciplinary work at Friedrich-Alexander-Universität Erlangen-Nürnberg (FAU) in Germany. Co-funded by the Alexander von Humboldt-Foundation (AvH) we have a wide expertise in the areas of Applied Mathematics, PDE analysis, control theory, numerical analysis and computational mathematics.

TRR154. C03. NODAL CONTROL AND THE TURNPIKE PHENOMENON

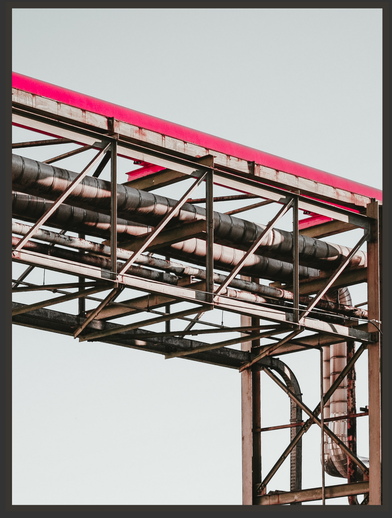
Martin Gugat
University of Erlangen-Nuremberg

Rüdiger Schultz
University of Duisburg-Essen

Michael Schuster
University of Erlangen-Nuremberg



Turnpike results provide connections between the solutions of transient and the corresponding stationary optimal control problems that are often used as models in the control of gas transport networks. In this way turnpike results give a theoretical foundation for the approximation of transient optimal controls by the solutions of stationary optimal control problems that have a simpler structure.



TRR154. C05. OBSERVER-BASED DATA ASSIMILATION FOR TIME DEPENDENT FLOWS ON GASNETWORKS

Jan Giesselmann
Technical University of Darmstadt

Martin Gugat
University of Erlangen-Nuremberg

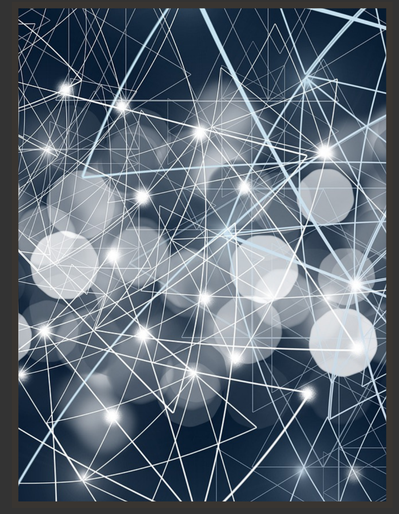
Teresa Kunkel
Technical University of Darmstadt

This project studies data assimilation methods for models of compressible flows in gas networks. The basic idea of data assimilation is to include measurement data into simulations during runtime in order to make their results more precise and more reliable.

ENDOWING ARTIFICIAL INTELLIGENCE WITH CONTROL-THEORETIC GUARANTEES

Enrique Zuazua
University of Erlangen-Nuremberg

Miroslav Krstic
University of California



Data-Based Optimization in Real Time for Dynamic Systems. BaCaTeC – HighTech Research between Bavaria and California.Unlike most machine learning algorithms, which have yet to be equipped with guarantees of convergence and stability in real time for feedback applications to dynamical systems.

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04/2021

DDS Department of DATA SCIENCE

Alexander von Humboldt
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