



Lothar-Collatz-Kolloquium für Angewandte Mathematik

Donnerstag, den 18. Juni 2026, um 14:30 Uhr, im Hörsaal 2

Prof. Dr. Nicolas R. Gauger*

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Grey-box data-driven turbulence modeling

Zusammenfassung/Abstract:

The so-called "grey-box modeling" approach cleverly combines insights from simulations ("white-box modeling") on high-performance computing (HPC) architectures with data-driven approaches ("black-box modeling") using artificial intelligence (AI) methods. As an example, we consider here the so-called "field inversion" method in data-driven turbulence modeling for the Navier-Stokes equations. For the field inversion, classical methods from the area of optimization with partial differential equations are used.

with contributions from

Emre Özkaya, Rohit Pochampalli, Guillermo Suarez from RPTU, Germany

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