



Oberseminar Mathematische Strömungsmechanik

Institut für Mathematik der Julius-Maximilians-Universität Würzburg

Junming Duan

Chinese University of Hongkong, Shenzhen, China

A high-order active flux method for convection-diffusion equations

Abstract: The active flux (AF) method is a compact high-order finite volume method originally proposed for solving hyperbolic conservation laws, in which cell averages and point values at cell interfaces are evolved simultaneously. In this talk, I will present a high-order AF method for convection-diffusion equations, including degenerate cases. The evolution of cell averages follows the standard finite volume method, ensuring conservation, while the point values update is kept compact. The limitings are incorporated to guarantee the discrete maximum principles of the numerical solutions. Several numerical experiments validate the theoretical results and efficacy of the method.

room 40.03.003 (Emil Fischer Str. 40)

Wednesday, May 13, 2026 at 12:30 pm,

Zu diesem Vortrag sind Sie herzlich eingeladen.

gez. *Christian Klingenberg*