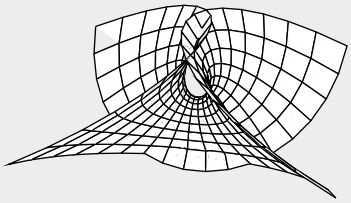

Oberseminar Mathematische Strömungsmechanik

Institut für Mathematik der Julius-Maximilians-Universität Würzburg

Wasilij Barsukow

CNRS, Université de Bordeaux, France

Implicit Active Flux methods for linear advection

Abstract:

The Active Flux (AF) method uses characteristics in order to update point values: given a reconstruction in space, the new value is found at the foot of the characteristic. For implicit methods, i.e. large CFL numbers, these characteristics cross distances much larger than one cell over one time step, and their foot is essentially unavailable. We employ a new reconstruction-in-time technique to obtain stable implicit Active Flux methods of up to 5th order of accuracy. Numerical results demonstrate the superiority of these methods over implicit Finite Difference methods and semi-discrete AF methods that are integrated using implicit Runge-Kutta methods.

This is joint work with Raul Borsche (University of Kaiserslautern).

room 40.03.003 (Emil Fischer Str. 40)

Thursday, Oct. 26 at 12:30 pm

Zu diesem Vortrag sind Sie herzlich eingeladen.

gez. Christian Klingenberg