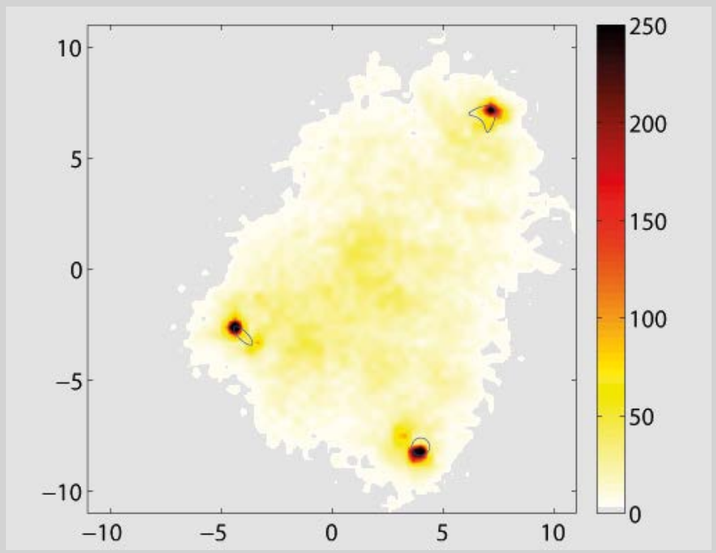

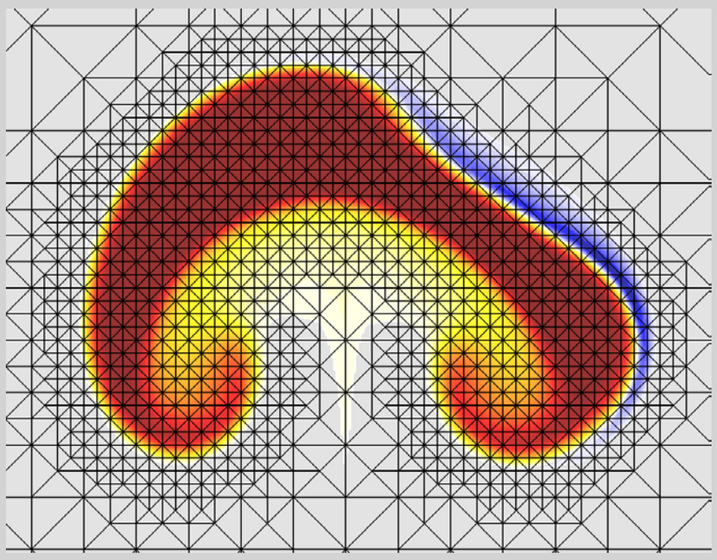

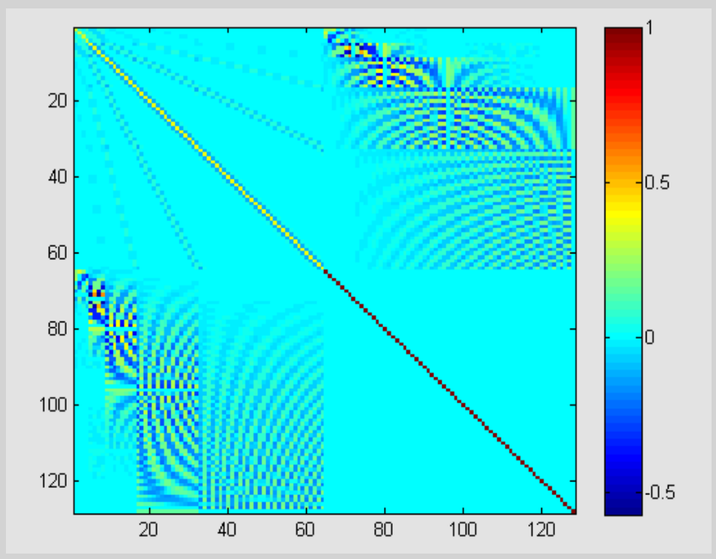

Oberseminar Numerik

Frau Dr. Yue Wang
(Laboratory of Computational Physics, Institute of Applied Physics and Computational Mathematics, Beijing)

09.06.17
14:00 Uhr
Seminarraum 04-426
Staudingerweg 9, 55128 Mainz

„THERMODYNAMICAL EFFECTS OF HIGH RESOLUTION SCHEMES FOR COMPRESSIBLE FLUID FLOWS “

Abstract:

One of the fundamental differences of compressible fluid flows from incompressible fluid flows is the involvement of thermodynamics. This difference should be manifested in the design of numerical methods and seems often be neglected in addition that the entropy inequality, as a conceptual derivative, is taken into account to reflect irreversible processes and verified for some first order schemes. In this paper, we refine the GRP solver to illustrate how the thermodynamical variation is integrated into the design of high resolution methods for compressible fluid flows and demonstrate numerically the importance of thermodynamic effect in the resolution of strong waves. As a by-product, we show that the GRP solver works for generic equations of state, and is independent of technical arguments.
This is a joint work with Prof. Jiequan Li.

Hierzu sind alle herzlich eingeladen.

AG Numerik
Institut für Mathematik
Staudingerweg 9
55128 Mainz

Sekretariat:
burkertb@mathematik.uni-mainz.de

JOHANNES GUTENBERG UNIVERSITÄT MAINZ

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