Oberseminar Mathematische Strömungsmechanik

Institut für Mathematik der Julius-Maximilians-Universität Würzburg

Hyperbolic equations - structure preserving methods & other topics

François Dubois

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An asymptotic expansion approach to the lattice Boltzmann method with applications to compressible Navier Stokes equations

Abstract:

We first recall some elements of history of the construction of lattice Boltzmann schemes. Then we present our "ABCD" approach, founded on the property that the numerical scheme is exact for the advection equation with the velocities of the lattice. This asymptotic analysis allows to write at several orders the conservative partial differential equations equivalent to the numerical scheme. A fit of parameters permits in favorable cases a precise approximation of compressible fluids equations.

via Zoom video conference (request the Zoom link from klingen@mathematik.uni-wuerzburg.de)

Friday, Apr. 9 at 3 pm CET

Zu diesem Vortrag sind Sie herzlich eingeladen.

gez. Christian Klingenberg