

数学与系统科学研究院

计算数学所学术报告

报告人: **Prof. Siegfried Mueller**

(*RWTH Aachen*)

报告题目:

**Multiwavelet-Based Grid Adaptation
with Discontinuous-Galerkin
Schemes for Conservation Laws**

邀请人: 郑伟英 研究员

报告时间: **2015 年 10 月 15 日 (周二)**

上午 10:00-11:00

报告地点: 科技综合楼三层

311 报告厅

Abstract:

We present an adaptive strategy for solving unsteady compressible flows by a discontinuous Galerkin method. The underlying idea of our adaptive strategy is to perform a multiresolution analysis using multiwavelets on a hierarchy of nested grids. This provides information on the difference between successive refinement levels that may become negligibly small in regions where the solution is smooth. Applying thresholding, the data is compressed thereby triggering local grid adaptation. Furthermore, this information is used as an additional indicator for limiting. We will give a heuristic strategy how to choose the threshold value such that the accuracy of a reference solution on a uniform discretization is maintained asymptotically. Although there is no rigorous proof available we will verify the reliability of the strategy by numerous computations and parameter studies for different conservation laws.

欢迎大家参加！