数学与系统科学研究院

计算数学所学术报告

报告人：　Prof. Jianxian Qiu

（ School of Mathematical Sciences and Fujian Provincial Key Laboratory of Mathematical Modeling and High-Performance Scientific Computing, Xiamen University ）

报告题目：

Weighted Essentially Non-Oscillatory limiters for Runge-Kutta Discontinuous Galerkin Methods

邀请人：　郑伟英 研究员

报告时间：2017 年 5 月 22 日（周一）

上午 10:00-11:00

报告地点：　数学院南楼七层

702 教室

Abstract:

In the presentation we will describe our work on a class of limiters, called WENO (weighted essentially non-oscillatory) type limiters, for Runge-Kutta discontinuous Galerkin (RKDG) methods. The goal of designing such limiters is to obtain a robust and high order limiting procedure to simultaneously obtain uniform high order accuracy and sharp, non-oscillatory shock transition for the RKDG method. We adopt the following framework: first we identify the "troubled cells", namely those cells which might need the limiting procedure; then we replace the solution polynomials in those troubled cells by reconstructed polynomials using WENO methodology which maintain the original cell averages (conservation), have the same orders of accuracy as before, but are less oscillatory. These methods work quite well in our numerical tests for both one and two dimensional cases, which will be shown in the presentation.

欢迎大家参加！