数学与系统科学研究院

计算数学所学术报告

报告人：**Assistant Prof. Yulong Xing**

（ ***Department of Mathematics, University of Tennessee*** ）

报告题目：

Discontinuous Galerkin methods for the shallow water equations

邀请人：　刘伟 博士

报告时间：**2014** 年 **6** 月 **8** 日（周日）

下午 **14:00-15:00**

报告地点：　科技综合楼三层 **301**

计算数学所小报告厅

Abstract:

Shallow water equations (SWEs) with a non-flat bottom topography have been widely used to model flows in rivers and coastal areas. Since the SWEs admit non-trivial steady-state solutions, extra care need to be paid to approximate the source term numerically. Another important difficulty arising in the simulations is the appearance of dry areas. In this presentation, we will talk about recently developed high-order discontinuous Galerkin (DG) finite element methods, which can capture the general moving steady state well, and at the same time are positivity preserving without loss of mass conservation. Some numerical tests are performed to verify the positivity, well-balanced property, high-order accuracy, and good resolution for smooth and discontinuous solutions.

欢迎大家参加！