

数学与系统科学研究院

计算数学所学术报告

报告人: **Prof. Eric T Chung**

( *The Chinese University of Hong Kong* )

报告题目:

**Staggered discontinuous Galerkin  
methods for the incompressible  
Navier-Stokes equations**

邀请人: 张文生 研究员

报告时间: 2015 年 9 月 11 日 (周五)

上午 11:00-12: 00

报告地点: 数学院南楼七层

702 会议室

## **Abstract:**

In this talk, we present a staggered discontinuous Galerkin method for the approximation of the incompressible Navier-Stokes equations. Our new method combines the advantages of discontinuous Galerkin methods and staggered meshes, and results in many good properties, namely local and global conservations, optimal convergence and superconvergence through the use of a local postprocessing technique. Another key feature is that our method provides a skew-symmetric discretization of the convection term, with the aim of giving a better conservation property compared with existing discretizations. We will present extensive numerical results, including Kovasznay flow, Taylor vortex flow, lid-driven cavity flow, parallel plate flow and channel expansion flow, to show the performance of the method.

**欢迎大家参加！**