数学与系统科学研究院

计算数学所学术报告

<u>报告人</u>: Dr. Young Ju Lee

(Department of Mathematics, Texas State University)

报告题目:

A Locally Conservative Enhanced Galerkin Approximations for the Parabolic Problems with Jump Coefficients

邀请人: 张晨松 副研究员

<u>报告时间</u>: 2015 年 5 月 27 日(周三) 上午 9:00~10:00

<u>报告地点</u>: 科技综合楼三层 **311**报告厅

Abstract:

We present and analyze a enhanced Galerkin finite element method (EG) to solve parabolic equations with jump coefficients. The EG method is formulated by enriching the conforming continuous Galerkin finite element method (CG) with the piecewise constant functions, which can be considered as an additional penalty stabilization. The method is shown to be locally and globally conservative, while keeping lower degree of freedoms in comparisons with the discontinuous Galerkin finite element methods (DG). We also present a fast and effective solver whose cost is roughly that of CG. Several numerical tests in two and three dimensional are presented to confirm our theoretical results as well as to demonstrate the advantages of the EG when coupled with the transport. This talk is based on a joint work with S. Lee and M. Wheeler at Center for Subsurface Modeling group, ICES at UT Austin.

欢迎大家参加!