数学与系统科学研究院

计算数学所学术报告

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报告题目：

High-Order Extended Finite Element Methods for Solving Interface Problems

邀请人：　　陈志明 研究员

报告时间：**2016** 年 **11** 月 **10** 日（周四）

上午 **10:00-11:00**

报告地点：　　数学院南楼二层

208 教室

Abstract:

Two different discontinuous Galerkin (DG) schemes on arbitrary order extended finite element (XFE) spaces are proposed for solving elliptic interface problems. Optimal error estimates in the piecewise H^1-norm and in the L^2-norm are rigorously proved for both schemes. In particular, we have devised a new parameter-friendly DG-XFEM method, which means that no ``sufficiently large'' parameters are needed to ensure the optimal convergence of the scheme. To prove the stability of bilinear forms, we derive non-standard trace and inverse inequalities for high-order polynomials on curved sub-elements divided by the interface. All the estimates are independent of the location of the interface relative to the meshes. Numerical examples are given to support the theoretical results.

欢迎大家参加！