数学与系统科学研究院

计算数学所学术报告

报告人：　李景治 副教授

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报告题目：

Universal extension for Sobolev spaces of differential forms and its applications

邀请人：　　毛士鹏 副研究员

报告时间：**2013** 年 **11** 月 **11** 日（周一）

下午 **16:00-17:00**

报告地点：　　科技综合楼三层 **311**

计算数学所报告厅

Abstract:

This talk is devoted to the construction of a family of universal extension operators for the Sobolev spaces o f differential forms of degree in a Lipschitz domain. It generalizes the construction of the first universal exte nsion operator for standard Sobolev spaces introduce d by Stein [E.~M. Stein, Singular integrals and differe ntiability properties of functions, Princeton Universit y Press, N.~J., 1970]. This corresponds to the case $l= 0$ of our theory. We adapt Stein's idea in the form of integral averaging over the pullback of a parametrize d reflection mapping. The new theory covers extensio n operators for $H^k(curl,\Omega)$ and $H^k(div,\ Omega)$ in R^3 as special cases for $l=1,2$, respec tively. Of considerable mathematical interest in its ow n right, the new theoretical results have many import ant applications: we elaborate existence proofs for ge neralized regular decompositions.

欢迎大家参加！