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：

Generalised cochaines and higher order MFD

邀请人：　　陈志明研究员

报告时间：**2011** 年 **10** 月 **20** 日（周四）

下午 **14：30-15：30**

报告地点：　　科技综合楼三层 **311**

计算数学所报告厅

Abstract:

Classical k-cochains describe the value of k-forms at the corresponding simplexes of a chain. In the Finite Element (FE) terminology this corresponds to nodal values (for k=0), line integrals on edges (k=1), fluxes through faces (k=n-1), or element averages (k=n), where n is the dimension and we assume to be given a decmposition of the computational domain.

Typically, they correspond to lowest order accuracy, ending up in first order approximation schemes in the context of Mimetic Finite Differences(MFD). In order to produce higher order schemes (as in classical FE schemes) one has to introduce more general approximations, mixing different types of degrees of freedom.

The talk will first recall classical MFD schemes and classical cochains, and then discuss the genaralization on several examples coming from PDE problems.

欢迎大家参加！