

数学与系统科学研究院

计算数学所学术报告

报告人: **Prof. Gary Cohen**

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报告题目:

**Mixed Spectral and Hybrid Elements
for the Wave Equations**

邀请人: 明平兵研究员

报告时间: **2011 年 3 月 9 日 (周三)**

上午 10:00-11:00

报告地点: **科技综合楼三层 311**

计算数学所报告厅

Abstract:

Gauss-Lobatto spectral elements, based on hexahedral meshes, provide, in their mixed formulation, a very efficient way to solve transient wave equations in terms of storage and of computational time. Unfortunately, it is very difficult and almost impossible in some cases to produce pure hexahedral meshes for complex geometries. Until now, we have remedied this shortcoming by using tetrahedral meshes in which tetrahedra were split into four hexahedra, but this technique provides very distorted meshes which imply to use about three times more unknown than pure hexahedral meshes to get the same accuracy. For this reason, we developed a strategy of solvers based on hybrid meshes containing mainly hexahedra and some tetrahedral, pyramids and wedges. First results show a dramatic gain in performance versus split tetrahedra.

欢迎大家参加!