

数学与系统科学研究院

计算数学所学术报告

(博士后定期学术报告)

报告人: Dr. Priscilla Tse

(ICMSEC)

报告题目: The geometric integration
of the time-domain Maxwell's equations
(project proposal)

合作导师: 洪佳林研究员

(Prof. Jia-lin Hong)

报告时间: 2007年10月10日(周三)

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 postdoctoral seminar concerns the geometric numerical integration of differential equations. The preservation of structure is of fundamental importance in many different applications. In particular, ordinary/partial differential equations with geometric properties such as symplectic structures or conservation laws appear in physical systems such as celestial mechanics, chemical reaction models and computational electromagnetism.

This seminar is in two parts. The first part concerns the geometric integration of ordinary differential equations using a large family of methods known as B-series methods. The second part is related to my project proposal at AMSS, which is the geometric integration of the time-domain Maxwell's equations. I shall mention some of the structures arising from the full Maxwell's equations, and discuss the difficulties concerning the effective applications of geometric integrators to the Maxwell's equations.

欢迎大家参加！