数学与系统科学研究院

计算数学所定期学术报告

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报告题目：

Geometric numerical integrators for Hamiltonian system and the recent developments

报告时间：**2011** 年 **5** 月 **26** 日（周四）

下午 **16：00～17：00**

（**15：30～16：00** 茶歇）

报告地点：　科技综合楼三层 **311**

计算数学所报告厅

Abstract:

Geometric numerical integrators are the numerical methods constructed to compute the conservative dynamical systems with some special structures, for example the Hamiltonian systems, volume-preserving system, multisymplectic system etc. In this talk we first review the idea of geometric numerical integrators. Then, we introduce the recent developments in Hamiltonian PDEs (multisymplectic Hamiltonian system). We focus on Lobatto IIIA-IIIB methods (one kind of partitioned Runge-Kutta methods) applied in space. Our study shows that the stability, the dispersion relation and the stiffness of the discretization is completely determined by the trace of the stability matrix. Some unsolved problems are also addressed in this talk.

欢迎大家参加！