数学与系统科学研究院

计算数学所学术报告

报告人： **Prof. Zhilin Li**

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报告题目：

Introduction to the Immersed Boundary and Interface Methods: Part II

邀请人： 陈志明研究员

报告时间：2011 年 5 月 18 日（周三）

上午 **9:00～12:00**

报告地点：科技综合楼三层 301

计算数学所小报告厅

Abstract：

In my first talk, I discussed various interface problems; literature review; the Immersed Boundary (IB) method, and the Immersed Interface method (IIM) for 1D interface problems. I also discussed some theoretical issues particularly about the jump conditions and derivations.

In the second talk, I plan to explain the IIM for 2D elliptic interface problems.

In the IIM, we only modify the finite difference or finite element methods in the neighborhood of the interface. The finite difference scheme is modified so that the jump conditions can be enforced in order to get at least second order accuracy.

I am going to explain the maximum principle preserving IIM.

I am also going to present the IIM for Stokes and Navier Stokes equations with a moving interface; Hele-Shaw flow, and some other benchmark examples. If time allows, I will also present the fast IIM which is basis for irregular domain problem.

欢迎大家参加！