

数学与系统科学研究院

计算数学所学术报告

报告人: Dr. Xinfeng Liu

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报告题目:

**Front tracking method and its
application**

邀请人: 许学军研究员

报告时间: 2008年7月23日(周三)

上午 10:30—11:30

报告地点: 科技综合楼三层 311

计算数学所报告厅

Abstract:

In this talk, I will introduce the local grid based front

tracking method, which uses Lagrangian propagation and redistribution, but applies Eulerian reconstruction for the bifurcation of topology. A fully Lagrangian method is used to propagate the interface to obtain an accurate solution of the interface position, and Eulerian reconstruction of the interface is only used in small regions where topological bifurcation is detected. This improved algorithm is shown extremely successful by simulation of turbulent mixing, such as the acceleration driven Rayleigh–Taylor instability, and among other complicated problems. I will also introduce a novel subgrid model to allow small but strictly positive amounts of numerical mass diffusion, and apply this model to Raleigh–Taylor mixing with excellent agreement to experiment. In addition, I will also compare related physical systems, with similar agreement to experiment.

欢迎大家参加！