数学与系统科学研究院

计算数学所学术报告

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报告题目：

Efficient Numerical Methods for Environmental Computations

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报告时间：**2014** 年 **6** 月 **18** 日（周三）

上午 **10:00**

报告地点： 数学院南楼二层 **202** 会议室

Abstract:

Numerical computation has been playing an important role in environmental problems, such as atmospheric aerosol pollution and groundwater pollution. Atmospheric aerosol transport model is a complex multi-component system that involves several physical and chemical processes: emission, transport, diffusion, deposition, condensation and coagulation. The studied area usually covers a large region. In this talk, we present our new research results on the development of efficient numerical methods for atmospheric multi-component aerosol transport problems and the contamination fluid flows in porous media. The developed methods can efficiently solve the multi-component aerosol transport dynamics in high-dimensional domains with a large range of aerosol concentrations and for different types of aerosols. Numerical experiment, theoretical analysis, and application show the computational efficiency of the developed methods.

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