



## 复旦大学数学科学学院 数学综合报告会

### 创新研究群体学术报告

报告题目: **Sharp Interface Limits for Diffuse Interface Models**

报告人: 刘豫宁 (上海纽约大学)

报告时间: 2016-11-22 星期二 14:00-14:50

报告地点: 光华东主楼 1501

摘要: We consider the mathematical relation between diffuse interface and sharp interface models for the flow of two viscous, incompressible Newtonian fluids like oil and water. In diffuse interface models a partial mixing of the macroscopically immiscible fluids on a small length scale  $\varepsilon > 0$  is taken into account. These models are capable to describe such two-phase flows beyond the occurrence of topological singularities of the interface due to collision or droplet formation. Both for theoretical and numerical purposes a deeper understanding of the limit  $\varepsilon \rightarrow 0$  is of interest. We discuss several rigorous mathematical results on convergence of diffuse interface to sharp interface models in dependence of the scaling.

非线性数学模型与方法教育部重点实验室  
中法应用数学国际联合实验室  
上海市现代应用数学重点实验室  
复旦大学数学研究所