



复旦大学数学科学学院
数学综合报告会

报告题目: **Numerical Methodologies for Fluid-Structure Interactions and Beyond: Interface Problems**

报告人: Prof. Pengtao Sun
(University of Nevada Las Vegas)

报告时间: 2016-07-25 星期一 13:30-14:30

报告地点: 光华东主楼 1813

摘要: In this talk, I will introduce different modeling and numerical methods for fluid-structure interaction (FSI) problems based upon different numerical strategies and solution interests, where, the arbitrary Lagrangian-Eulerian(ALE) method will be introduced first for different motions of structure, then the full Eulerian-phase field method and the fictitious domain method will be addressed for the case ALE method cannot handle. More beyond, I will extend my talk from FSI problems to other multiphysics problems and interface problems, introduce my recent work on the Stokes-Darcy-Brinkman coupling problem, the parabolic interface problem and the Stokes interface problem. Relevant numerical analyses (well-posedness, stability and convergence properties) and realistic applications of FSI problems will be illustrated as well in this talk.

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