



复旦大学数学科学学院 数学综合报告会

报告题目: Global Classical Solutions to a Micro-Macro Model for a Reactive Polymeric Fluid near Equilibrium

报告人: 张腾飞 (中国地质大学 (武汉) 数学与物理学院)

报告时间: 2021 年 10 月 12 日 星期二, 10: 00—11: 00

报告地点: 腾讯会议 (会议号 598 236 182)

摘要: In this talk, I will talk about our recent results on the dynamical stability of a new micro-macro model for a reactive polymeric fluid, and establish the global existence of classical solutions near the global equilibrium. The model couples the breaking/reforming reaction scheme of the microscopic polymers with other mechanical effects in usual viscoelastic complex fluids. How to deal with the chemo-mechanical coupling is the most crucial part of rigorous analysis. In particular, a weighted Poincaré inequality with a mean value plays a key role in overcoming the difficulty that arises from the non-conservative number density distribution of each species.

This is a joint work with Prof. Chun Liu and Dr. Yiwei Wang.

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