


复旦大学数学科学学院

数学综合报告会

报告题目：Poincar\'e type J-equation

报告人：徐钰伦博士（多伦多大学）

时间：2026-06-16 星期二 10:00-11:00

地点：光华楼东主楼1601

报告摘要:

We introduce a two-parameter continuity path for the J-equation and use it to characterize the solvability of the J-equation for Kähler metrics with Poincaré type singularities along a divisor D, allowing simple normal crossings and self-intersections.

On Kähler surfaces, we show that the classical subsolution condition in the smooth setting implies solvability in the Poincaré type setting for any smooth divisor D. As a consequence, if X contains no curves of negative self-intersections and $K_X[D]$ is ample, then the K-energy is bounded from below on any Poincaré type Kähler class.

In the smooth divisor case, we further analyze the asymptotic behavior of solutions near D, and show that existence of a Poincaré type solution implies existence of a solution to the J-equation on D. This is a joint work with Xiuxiong Chen

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