


复旦大学数学科学学院
数学综合报告会

报告题目：Schramm-Loewner evolution contains a topological Sierpi´nski carpet when κ is close to 8

报告人：Zijie Zhuang (UPenn)

时间：2026-07-13 星期一 16:00-17:00

地点：光华楼东主楼1801

报告摘要：

Schramm-Loewner Evolution (SLEκ) is a one-parameter family of random fractal curves that describes the conjectural scaling limits of interfaces in two-dimensional statistical mechanics models. In this talk, I will present a result with Haoyu Liu (PKU) showing that there exists $\delta > 0$ such that for $\kappa \in (8 - \delta, 8)$, the range of an SLEκ curve almost surely contains a topological Sierpi´nski carpet. Combined with a result of Ntalampekos (2021), this implies that in this parameter range, SLEκ is almost surely conformally non-removable, and the conformal welding problem for SLEκ does not have a unique solution. Our result also implies that for $\kappa \in (8 - \delta, 8)$, the adjacency graph of the complementary connected components of the SLEκ curve is disconnected. During this talk, I will explain the main ideas inspired by Mandelbrot's fractal percolation model and discuss some open problems.

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