



## 复旦大学数学科学学院 数学综合报告会

报告题目: Reciprocity of the Chern–Simons Invariants of 3-Manifolds

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时间: 2025-09-09 星期二 10: 50—11: 50

地点: 光华东主楼1601

报告摘要:

For an oriented closed 3-manifold  $M$  and a group homomorphism  $\pi_1(M) \rightarrow \mathrm{SL}_2(\mathbb{C})$ , one can define the Chern–Simons invariant and the adjoint Reidemeister torsion. In recent years, several physicists and topologists have investigated reciprocity conjectures concerning these torsions. By analogy, I have formulated reciprocity conjectures for the Chern–Simons invariants of 3-manifolds and provided supporting evidence for them. In particular, I proved that the conjectures hold when the Galois descent of a certain algebraic  $K_3$ -group is satisfied. In this talk, I will present the background, explain the main results, and discuss possible future directions.

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