



复旦大学数学科学学院 数学综合报告会

午间学术报告会（一百三十八）

报告题目：Quasi-local algebras and asymptotic expanders

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报告时间：2021-05-21 星期五 12:00-13:00

地点：光华东主楼 2201

摘要：

Roe algebras are C^* -algebras associated to metric spaces, which encode their large scale structures. These algebras play a key role in higher index theory, providing a bridge between geometry, topology and analysis. We study a quasi-local perspective on Roe algebras, which leads to a larger index algebra called the quasi-local algebra. Based on the idea of quasi-locality, we introduce a graphic notion called asymptotic expanders which generalise the classic one of expanders. Using a structure theorem, we show that asymptotic expanders cannot be coarsely embedded into any Hilbert space and hence construct new counterexamples to the coarse Baum-Connes conjecture. This is a joint project with Ana Khukhro, Kang Li, Piotr Nowak, Jan Spakula and Federico Vigolo.

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