



## 复旦大学数学科学学院 数学综合报告会

报告题目: Spectral multipliers without semigroup framework

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报告摘要:

In this talk, we mainly talk about spectral multiplier theorems for abstract self-adjoint operators on spaces of homogeneous type. We have two main objectives. The first one is to work outside the semigroup context. In contrast to previous works on this subject, we do not make any assumption on the semigroup. The second objective is to consider polynomial off-diagonal decay instead of exponential one. In our general context we also introduce a restriction type estimates la Stein-Tomas. This allows us to obtain sharp spectral multiplier theorems and hence sharp Bochner-Riesz summability results in some situation. Finally, we show two examples, one is the random walk on the integer lattice  $\mathbb{Z}^n$  and the other is the graph manifolds on which the heat kernel satisfies a non-classical Gaussian upper bound.

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