



## 复旦大学数学科学学院 数学综合报告会

报告题目: Isometric embedding and quasi-local mass

报告人: 陆思远 (McMaster University)

时间: 2022-01-14 星期五 9:20-10:00

地点: 复旦大学光华楼东主楼2201室、腾讯会议755107231

报告摘要:

In this talk, we will first review the classic result of isometric embedding of  $(S^2, g)$  into 3-dimensional Euclidean space by Nirenberg and Pogorelov. We will then discuss how to apply it to define quasi-local mass in general relativity. In particular, the positivity of Brown-York quasi-local mass proved by Shi-Tam is equivalent to the Riemannian Positive mass theorem by Schoen-Yau and Witten. We will then discuss recent progresses in isometric embedding of  $(S^2, g)$  into general Riemannian manifold. We will also discuss recent works on a localized Riemannian Penrose inequality, which is equivalent to the Riemannian Penrose inequality.

This is based on joint works with P. Guan and P. Miao.

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