

几何分析研讨班（6月27日）

报告人 1: XIANZHE DAI 教授

美加州大学 Santa Barbara 分校数学系

时间: 2024年6月27日 14:00—14:50

地点: 数学楼 102

题目: **Some aspects of scalar curvature rigidity**

摘要:

Scalar curvature is the weakest kind of curvature. Nevertheless it enjoys some surprising and interesting rigidity phenomena, initially discovered from the positive mass theorem. We will survey some of the well known rigidity results and talk about a recent result of my student, Chengzhang Sun.

报告人 2: GUOFANG WEI 教授

美加州大学 Santa Barbara 分校数学系

时间: 2024年6月27日 15:00—15:50

地点: 数学楼 102

题目: **The volume entropy rigidities for RCD spaces**

摘要:

The volume entropy is a fundamental geometric invariant defined as the exponential growth rate of volumes of balls in the universal cover. It is a very subtle invariant which has attracted extensive study. The fundamental rigidity results here are the maximal volume entropy rigidity result of Ledrappier-Wang and the minimal volume rigidity theorem of Besson-Courtois-Gallot. The latter is a far reaching generalization of various famous rigidity results such as the Mostow rigidity for hyperbolic manifolds. We will report on joint work with Chris Connell, Xianzhe Dai, Jesus Nunez-Zimbron, Requel Perales, Pablo Suarez-Serrato concerning the generalizations to RCD spaces of these rigidity results.

报告人 3: QI S. ZHANG 教授

美加州大学 Riverside 分校数学系

时间: 2024年6月27日 16:00—16:50

地点: 数学楼 102

题目: **A rigidity result for ancient Ricci flows**

摘要: Using the sharp log Sobolev functional (log entropy), we prove a qualitatively sharp rigidity result for ancient Ricci flows without sign condition on the curvatures. The result is also related to the backward limit problem of type II ancient Ricci flows.