北京理工大學

数学与统计学院学术报告

Scalar curvature rigidity of the four-dimensional sphere

报告人： Simone Cecchini，Texas A&M University

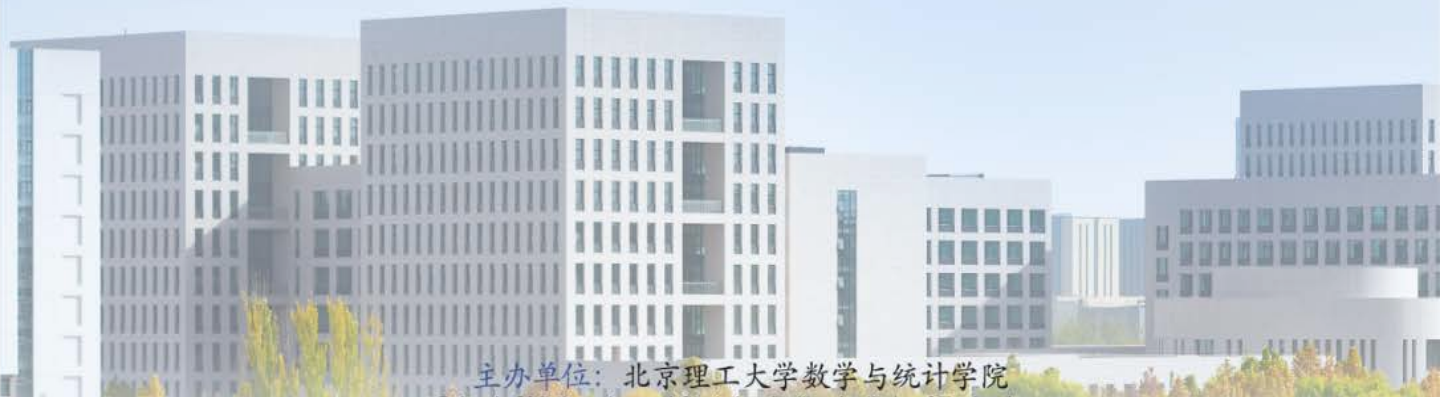
邀请人： 史鹏帅

时间： 2024年4月11日(周四)上午9:30-10:30

地点： Zoom: 884 0916 5779，密码: 240411

摘要： Let (M, g) be a four-dimensional closed connected oriented (possibly non-spin) Riemannian manifold with scalar curvature bounded below by n(n − 1). We prove that, if f is a smooth distance non-increasing map of non-zero degree from (M,g) to the unit four-sphere, then f is an isometry. Following ideas of Gromov, we utilize μ-bubbles and a version with coefficients of the rigidity of the three-sphere to rule out the case where all the inequalities are strict. Our proof of rigidity exploits monotonicity results for the harmonic map heat flow coupled with the Ricci flow due to Lee and Tam.

个人简介： Simone Cecchini is an Assistant Professor in the Department of Mathematics at Texas A&M University. His research lies at the interface of global analysis and topology. He is particularly interested in topological invariants of elliptic operators and their relationship with the metric properties of manifolds. He has published papers in journals including JEMS, GAFA, TAMS, G&T, etc.



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School of Mathmatics and Statistics, Beijing Institute of Technology