



## 复旦大学数学科学学院 数学综合报告会

报告题目：Construction of Riemannian geometries with prescribed scalar curvature and with monotonous Geroch mass

报告人：Dr.István Rácz (Wigner RCP, Budapest & University of Warsaw, Warsaw)

时间：2019-10-21 星期一 10:00-11:00

地点：光华东主楼 1501

报告摘要：Consider a smooth three-dimensional manifold  $\Sigma$  that is smoothly foliated by topological two-spheres. Choose a smooth flow such that the integral curves of it intersect the foliating two-spheres precisely once. Assume that a smooth distribution of induced two-metrics on the leaves of the foliation is also chosen such that the area of the leaves is non-decreasing. It is shown then that a large variety of Riemannian three-metrics, with freely specifiable scalar curvature, can be constructed on  $\Sigma$  such that the foliation we started with gets to be an inverse mean curvature foliation, the prescribed flow turns out to be a generalized inverse mean curvature flow and the Geroch mass---defined with respect to the foliation---is guaranteed to be non-decreasing.

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