

Simplicial volume and macroscopic scalar curvature

Simplicial volume is a topological invariant of compact manifolds introduced by Gromov in the early '80s. It measures the complexity of singular fundamental cycles. Simplicial volume is in particular related to Riemannian geometry. One fundamental result in this subject is Gromov's Main Inequality which bounds the simplicial volume of a manifold by its Riemannian volume provided the manifold satisfies a lower Ricci curvature bound.

In this talk we review Gromov's result and address some more recent estimates in its spirit where the geometric conditions are relaxed to lower bounds on the so-called macroscopic scalar curvature.