



Minisymposium 24 - Probability and Geometry

Estimates of the First Neumann Eigenvalue and the Log-Sobolev Constant on Non-Convex Manifolds

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A number of explicit lower bounds are presented for the first Neumann eigenvalue on non-convex manifolds. The main idea to derive these estimates is to make a conformal change of the metric such that the manifold is convex under the new metric, which enables one to apply known results obtained in the convex case. This method also works for more general functional inequalities. In particular, some explicit lower bounds are presented for the log-Sobolev constant on non-convex manifolds.