

GEOMETRY SEMINAR

Sharp Bounds for Eigenvalues of Riemannian Manifolds**Changyu Xia**

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Abstract. We consider the eigenvalue problems on Riemannian manifolds and obtain new isoperimetric inequalities for some of them. In particular, we will prove a sharp bound for the lower order Dirichlet eigenvalues of the Laplacian on bounded domains in a Euclidean space which strengthens the well-known Ashbaugh-Benguria inequality conjectured by Payne-Polya-Weinberger and supports strongly an important conjecture of Ashbaugh-Benguria.