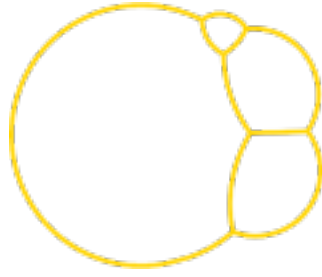


Isoperimetric Problems



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Lecture 2. Generalized existence and compactness for isoperimetric regions and applications

Tuesday, 21 June 2022 10:20 (50 minutes)

In this talk, we want to give an overview of a result of generalized existence and compactness of isoperimetric regions in the context of smooth (possibly noncompact) Riemannian manifolds without boundaries and of bounded geometry together with metric theoretic proofs that for almost-isoperimetric regions small volumes implies small diameters always in the context of smooth Riemannian manifolds. Applications to the theory of the existence of isoperimetric regions in noncompact Riemannian manifolds, to the Aubin-Cartan-Hadamard conjecture for small volumes, and the estimates of a topological lower bound for the number of solutions of the Cahn-Hilliard equation and Cahn-Hilliard systems are given (provided time permits).

Presenter: NARDULLI, Stefano (Universidade Federal do ABC)