MASSACHUSETTS INSTITUTE OF TECHNOLOGY
DEPARTMENT OF MATHEMATICS

Geometric Analysis Seminar

Wednesday, November 16, 2022
4:00 PM - 5:00 PM 2-131

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“The Spherical Plateau Problem: Existence, Structure, Uniqueness”

Abstract

Consider a countable group G acting on the unit sphere S in the space of L^2 functions on G by the regular representation. Given a homology class h in the quotient space S/G, one defines the spherical Plateau solutions for h as the intrinsic flat limits of volume minimizing sequences of cycles representing h. In some special cases, for example when G is the fundamental group of a closed hyperbolic manifold of dimension at least 3, the spherical Plateau solutions are essentially unique and can be identified. I will explain why that is true and how it applies to the question of stability for the entropy inequality of Besson-Courtois-Gallot. However not much is known about the properties of general spherical Plateau solutions. I will discuss partial results on the existence and structure of non-trivial Plateau solutions.