Counting Closed Geodesics in Homology Classes for Convex Co-Compact Hyperbolic Manifolds.

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102 Bradley Hall, 4:00 pm
(Tea 3:30 pm Math Lounge)

Abstract

We consider manifolds $X = \Gamma\backslash\mathbb{H}^{n+1}$, where $\mathbb{H}^{n+1}$ is real hyperbolic $n+1$ space, and Γ is a convex co-compact, discrete, torsion free group of isometries of $\mathbb{H}^{n+1}$. Using Selberg's trace formula (twisted by a character of the fundamental group of X), we compute the asymptotics of the counting function for closed geodesics in homology classes. For compact Riemann surfaces, this problem was studied by Katsada and Sunada, and Phillips and Sarnak. This is joint work with Peter Perry.

This talk should be accessible to graduate students.