

BI-CO MATHEMATICS COLLOQUIUM

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“A Central Limit Theorem for Random Closed Geodesics on Surfaces”

Monday, February 17, 2020

Talk at 4:00 – Hilles 109

Tea at 3:30 – Hilles 208, Math Lounge

Abstract:

In 2013, Chas, Li, and Maskit produced numerical experiments on random closed geodesics on a hyperbolic pair of pants. Namely, they drew uniformly at random conjugacy classes of a given word length, and considered the hyperbolic lengths of the corresponding closed geodesic on the pair of pants. Their experiments lead to the conjecture that the length of these closed geodesics satisfies a central limit theorem. I will discuss a proof of this conjecture obtained in joint work with I. Gekhtman and G. Tiozzo, and its generalizations to all negative curved surfaces.

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