

Geometry, Groups and Dynamics/GEAR Seminar
(held at the Illinois hub of GEAR)

12:00 pm, Tuesday, February 9, 2016, 243 Altgeld Hall

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L^2 -torsion of free-by-cyclic groups

Abstract: I will provide an upper bound on the L^2 -torsion of a free-by-cyclic group, $p^{\{2\}}(G_\Phi)$, in terms of a relative train-track representative for Φ in $\text{Aut}(F)$. This result shares features with a theorem of Luck-Schick computing the L^2 -torsion of the fundamental group of a 3-manifold that fibers over the circle in that it shows that the L^2 -torsion is determined by the exponential dynamics of the monodromy. In light of the result of Luck-Schick, a special case of this bound is analogous to the bound on the volume of a 3-manifold that fibers over the circle with pseudo-Anosov monodromy by the normalized entropy recently demonstrated by Kojima-McShane.

[Video](#)