

L2-torsion of free-by-cyclic groups

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I will provide an upper bound on the L2-torsion of a free-by-cyclic group, in terms of a relative train-track representative for the monodromy. This result shares features with a theorem of Luck-Schick computing the L2-torsion of the fundamental group of a 3-manifold that fibers over the circle in that it shows that the L2-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.