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„Secondary L2-invariants of groups and knots.“

Abstract:

L2-invariants capture spectral information of equivariant CW complexes. The most familiar examples are the L2-Betti numbers but they come along with two more sophisticated cousins known as L2-torsion and Novikov-Shubin invariants. L2-torsion reveals interesting information in contexts where L2-Betti numbers have nothing to say: it detects torsion growth in group homology and it computes volumes of 3-manifolds. Novikov-Shubin invariants, in turn, motivate the study of a certain knot invariant which I want to present in this talk. It turns out that for some knots computing this invariant would require solving open problems in transcendental number theory.