Polytope invariants of sutured 3-manifolds

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The dual Thurston norm ball of a 3-manifold is a polytope in its first real homology group. In this talk, I will introduce a natural generalization of this polytope to sutured 3-manifolds, constructed using L^2-torsion theory. The resulting invariant generalizes both the sutured Floer homology polytope and the taut foliation polytope, and satisfies beautiful decomposition and covering formulas. This is joint work with Yaoping Xie.