SIMPLICIAL VOLUME: FILLINGS, GAPS, AND ONE-RELATOR GROUPS

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The size of singular homology classes can be measured in terms of the ℓ^1-semi-norm. The ℓ^1-semi-norm of canonical homology classes leads to invariants of topological spaces; e.g., the ℓ^1-semi-norm of fundamental classes of manifolds is simplicial volume. However, not much is known about the set of values of simplicial volumes.

In this talk, we will describe connections between simplicial volume of manifolds and one-relator groups to filling invariants. This leads to a new way of constructing manifolds with positive,"small", simplicial volume.

This is joint work with Nicolaus Heuer (Oxford).