AN ℓ_1-NORM INEQUALITY FOR COMPLETE MANIFOLDS

In the 80's, Gromov introduced a new topological invariant, the *simplicial volume* of a manifold. He showed its deep connection with geometry by proving his *Main inequality*, relating the simplicial volume to the volume of the manifold under some curvature assumptions.

Since then, the community has tried to generalize and enhance this relation by weakening the curvature assumptions, extending, or improving the inequality.

In joint work with Shi Wang, we extend the results of Besson-Courtois-Gallot about the ℓ_1-norm of the fundamental class of a closed manifold to all homology classes of a complete manifold. Our inequalities are sharper than Gromov's original ones and are expressed in terms of the critical exponent of the manifold. I will define all necessary objects, give some context and the main ideas of the proof.