

Barycentric straightening and Gromov norm

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Abstract: For a connected, oriented topological manifold, the Gromov norm associates each homology class a real value which measures how efficiently the class can be represented in terms of the linear combinations of singular simplices. Although the notion is defined topologically, it is closely related to the geometry of the manifold. In case of negatively curved manifolds, Gromov and Thurston uses the geodesic straightening to show the positivity of Gromov norm on degree 2 and above. For higher rank symmetric spaces, Lafont and Schmidt uses the barycentric straightening to show the positivity of the simplicial volume. In this talk, we will discuss the barycentric straightening and show how one can make use of the local estimate to show the positivity of the simplicial volume, thus extending the result to a large class of nonpositively curved manifolds.