

Functorial semi-norms in homology and geometry

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Functorial semi-norms on singular homology add metric information to homology classes that is compatible with continuous maps. In particular functorial semi-norms give rise to degree theorems for certain classes of manifolds, and, conversely, knowledge about mapping degrees allows to construct functorial semi-norms with interesting properties. In this context, geometric properties such as hyperbolicity and algebraic properties mimicking negative curvature play an important role. This talk will give an introduction into the subject and survey recent developments.