

# First Joint Meeting Brazil Italy of Mathematics Special Session: Geometric Topology and Dynamics

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**Title:** Persistent Homology and Barcode Fields

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**Abstract:** Persistent homology lets us construct informative summaries of the geometry and topology of data and probability measures via barcodes. We propose a local-to-global form of homology represented by continuous barcode fields that are stable with respect to small perturbations of a probability measure as measured by the Wasserstein distance. We also discuss applications to shape analysis.