

What is ... Topological Data Analysis?

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16:00-17:00h on campus in M.G.004
Analysis & Geometry Seminar, Antwerpen

Topological data analysis is a recent and fast growing field that approaches the analysis of data sets using techniques from algebraic topology and geometry, and machine learning. Its main tool, persistent homology (PH), provides information about the connected components, holes, voids and higher-dimensional cycles.

This talk will consist of three parts:

- (1) A brief introduction of PH.
- (2) A presentation of our recent work where we show that PH can detect the number of holes, curvature and convexity.
- (3) A brief discussion about the stability of PH, the main theoretical results in the field.