

1125-55-1287

Peter Bubenik* (peter.bubenik@ufl.edu). *Discovering Geometry using Topological Data Analysis*. Preliminary report.

In one approach to topological data analysis, persistent homology is used to recover the homology of a object from which we have sampled finitely many points. In this analysis, the long-lived features describe this homology and the short-lived features are considered to be noise. I will advocate an opposing view: the short-lived features reveal the underlying geometry and can be crucial to analyzing the data. (Received September 15, 2016)