

Institut für Geometrie

Gastvortrag

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Seminarraum 2, Kopernikusgasse 24, 4. Stock

Stable invariants for multidimensional persistence

MARTINA SCOLAMIERO

(EPFL - Laboratory for Topology and Neuroscience)

Multidimensional Persistence is a method in topological data analysis which allows to study several properties of a dataset contemporarily. It is important to identify discrete invariants for multidimensional persistence in order to compare properties of different datasets. Furthermore such invariants should be stable, i.e., data sets which are considered to be close should give close values of the invariant.

We introduce a framework that allows to compute a new class of stable discrete invariants for multidimensional persistence. In doing this, we generalize the notion of interleaving topology on multi-dimensional persistence modules and consequently the notion of closeness for datasets. A filter function is usually chosen to highlight properties we want to examine from a dataset. Similarly, our new topology allows some features of datasets to be considered as noise.

Michael Kerber