

P-30

The Persistent Homology of a Correspondence; A Viewpoint from Quiver Representations

Hiroshi Takeuchi¹, Yasuaki Hiraoka²

¹*Department of mathematics, Tohoku University,* ²AIMR, Tohoku University

The theory of homology induced maps of correspondences proposed by Shaun Harker et al. is a powerful tool which allows the retrieval of underlying homological information from sampling data with noise or defects. In this study, we redefine induced maps of correspondences within the framework of persistence modules on commutative ladders, and provide more concise proofs of the main theorems in the original paper.

With this point of view, we easily extend these ideas to filtration analysis, which provides a new method for analyzing dynamical systems.