

Méthodes topologiques en analyse non linéaire:développements récents -Conférence à la mémoire du Professeur Andrzej Granas 4 - 8 juillet 2022

Topological Methods in Nonlinear Analysis: Recent Advances - Conference in memory of Professor Andrzej Granas July 4 - 8, 2022

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## Some recent advances in combinatorial topological dynamics

Forman's work on discrete Morse theory has found applications in the study of the topological shape of data. To make this approach successful in describing the dynamics encoded in data a proper understanding of dynamical concepts in the combinatorial setting of a directed graph whose vertex set is a finite topological space is needed. I will introduce some topological invariants for combinatorial dynamical systems and, if time permits, I will present some results on the homological persistence for such systems.