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Francesco Vaccarino* (francesco.vaccarino@gmail.com). *Multidimensional persistence vs diagram and Hochschild cohomology*. Preliminary report.

Motivated by the attempt to build on the top of reasonable data (e.g. weighted networks) so-called abstract BF-theories (a kind of topological quantum field theories), we will extend the usual approach of multidimensional persistent (co-)homology by considering diagrams of incidence algebras of finite posets. By using results of Gerstenhaber et al. we will show what is the link between diagram cohomology, Hochschild cohomology, and multidimensional persistence. thus connecting seemingly uncorrelated research areas as topological data analysis and topological quantum field theory. (Received September 15, 2016)