

Persistence K-theory

vendredi 8 juillet 2022 14:30 (1 heure)

K-theory, in its classical form, associates to a triangulated category an abelian group called the K-group (or the Grothendieck group). Important invariants of various triangulated categories are known to factor through their K-groups.

In this talk we will explain the foundations of persistence K-theory, which is an analogous theory for triangulated persistence categories. In particular we will introduce new persistence measurements coming from these K-groups, and new invariants coming from the combination of the persistence and triangulated structures.

In the last part of the talk we will exemplify this new theory on the case of the persistence Fukaya category of Lagrangian submanifolds. In particular we will show how our invariants can distinguish between modules that can represent embedded Lagrangians and those who can represent only immersed ones.

Based on joint work with Octav Cornea and Jun Zhang.

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