

An introduction to discrete derived categories

David Pauksztello (Manchester)

This is an overview of some joint work with Nathan Broomhead and David Ploog.

Derived categories play an important role in representation theory and algebraic geometry. However, in general, the structure of derived categories is difficult to understand. In this talk, we will motivate the study of derived categories, and discuss a particularly nice class of examples: the algebras with discrete derived categories. Such derived categories can be thought of as intermediate in complexity between the derived categories of representation-finite hereditary algebras and representation-tame hereditary algebras and provide an ideal testing ground to gain understanding and intuition in many important problems in representation theory. In this talk, we will discuss various homological and structural properties of these categories.