SCMS Seminar

EXCEPTIONAL CYCLES IN TRIANGULATED CATEGORIES

Speaker: Pu Zhang

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Lecture

Time: 16:00 - 17:00, Thursday, May 23, 2019

Venue: Room 2001, East Main Guanghua Tower

Abstract: Exceptional cycles in a Hom-finite triangulated category with Serre functor have been recently introduced by N. Broomhead, D. Pauksztello, and D. Ploog.

This notion is a generalization of a spherical object in algebraic geometry, and also could be taken as the analogue of an exceptional sequence in the representation category of an acyclic quiver. It provides a new invariant of triangle-equivalences. Its importance also lies in the fact that an exceptional cycle can be used to construct auto-equivalences of the given triangulated category. Thus a fundamental task is to classify all the exceptional cycles. In this talk, we will first recall some basic properties of exceptional cycles; and then we will determine all the exceptional cycles in two kind of triangulated categories, i.e., the bounded derived category of an acyclic quiver, and the bounded homotopy category of perfect complexes over a gentel algebra. This talk is based on a joint work with Peng Guo.