

# Distinguished Triangle and Triangulated Category

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## Abstract

Triangulated categories arise naturally in many areas of modern mathematics, from algebraic geometry to homological algebra. They provide a more general framework for exact sequences and homological constructions than that of abelian categories.

This seminar will focus on the basic notions about triangulated categories, starting with the step-by-step definition of distinguished triangles, which generalizes the notion of exact sequences to a categorical setting. We will move on to the axioms of triangulated categories and some of their properties. We will see from the categorical point of view and catch a glimpse of how triangulated categories are a unifying thread of contemporary mathematics.

## References

- [1] M. Kashiwara and P. Schapira. *Sheaves on Manifolds: With a Short History. Les débuts de la théorie des faisceaux. By Christian Houzel.* Grundlehren der mathematischen Wissenschaften. Springer Berlin Heidelberg, 2013.