

國立中央大學數學系

專題演講

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演講題目：Derived categories and birational geometry

演講茶會：2025年10月23日(星期四) 3:30 p.m. ~ 4:00 p.m.

茶會地點：中央大學鴻經館M306

演講時間：2025年10月23日(星期四) 4:00 p.m. ~ 5:00 p.m.

演講地點：中央大學鴻經館M107

Abstract：

Birational geometry aims at classifying projective varieties according to certain invariants, and derived categories are a convenient framework to compute such invariants. At the heart of modern birational geometry lies the Minimal Model Program: a quasi algorithmic process that performs a series of basic operations on any given projective variety and produces a relatively simple representative of its birational equivalence class (a minimal variety). These operations induce semiorthogonal decompositions in the derived category. And conversely, it is expected that most derived categories of minimal varieties do not admit any semiorthogonal decomposition. In this talk, we will introduce some of these concepts and present some recent progress in the direction of this indecomposability conjecture. The results are based on joint work with Pieter Belmans and Andreas Demleitner, and joint work in progress with Jungkai Alfred Chen.