

# **Constructions of derived equivalences for algebras**

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## **Abstract**

Derived categories and equivalences are widely applied in representation theory and homological algebra. In this talk, we shall provide methods to construct derived equivalences for algebras. Also, we show that our construction can be applied to verify an important conjecture, the Broue's Abelian Defect Group Conjecture, for some block algebras in the modular representation theory of finite groups.