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Titre : The McKay correspondence and Reid's recipe

Résumé : These lectures will describe the derived McKay correspondence in dimension three, focusing on examples arising in noncommutative toric geometry. In this context, one can illustrate the geometry of the derived equivalence in a precise way known as 'Reid's recipe'.

The classical case of the (toric) McKay correspondence in dimension three studies the relationship between the derived category of a crepant resolution of $\mathbf{C}^3/G$ and the derived category of the skew group algebra for a finite (abelian) subgroup G of $\mathbf{SL}(3,\mathbf{C})$. More generally, replacing $\mathbf{C}^3/G$ by any Gorenstein toric 3-fold leads to the study of dimer model algebras, and again, a derived equivalence linking the geometry of a crepant resolution and the derived category of modules over the noncommutative toric algebra can be described.