

Tilting Theory and Generalizations

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Tilting theory was developed in the early 80s, motivated by the earlier introduction of reflection functors, relating the representation theory of two quivers. The idea is to compare module categories of two algebras using tilting modules and related functors and torsion theories. In recent years, there has been several generalizations motivated by links to the combinatorics of cluster algebras. In this lecture series, a summary and reminder of classical tilting will be given, and then recent generalizations in terms of cluster-tilting, tau-tilting and 2-term silting will be discussed. Relations to torsion theories will be central.