

Derived equivalence of algebraic varieties

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Abstract

Recent interest in the derived category of an algebraic variety has led to some new insights in algebraic geometry. In some cases it is possible to recover the variety from its derived category; in other cases, non-isomorphic varieties may have equivalent derived categories. (It is expected that these sorts of equivalences lead to dualities in string theory, such as mirror symmetry.) In this talk I will give a heuristic description of the derived category, and some of its recent applications.