Quivers and Calabi-Yau algebras

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Abstract

These lectures are meant as a gentle introduction to the study of (twisted) Calabi-Yau algebras, which are related to Calabi-Yau manifolds, or the shapes that appear in the extra dimensions allowed by string theory. This theory is closely relation to that of quivers and (super)potentials. Thus, the first lecture will focus primarily on necessary background material on quivers and quivers with relations. The second lecture will introduce examples of Calabi-Yau algebras. The third lecture will be dedicated to work of mine with Daniel Rogalski related to the classification of quivers supporting Calabi-Yau algebras under certain conditions.