Vertex algebras and mirror symmetry

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Abstract

The vertex algebra approach to mirror symmetry follows closely the original line of thinking that led to the discovery of mirror symmetry by physicists. Its ultimate goal is to give precise mathematical definitions of N=(2,2) superconformal field theories called A and B models associated to any Calabi-Yau variety and then show that thus constructed theories are related by the mirror involution for all known examples of mirror symmetric varieties. The talk is aimed at algebraic geometers, and no knowledge of vertex algebras is required.