

Connections between Commutative Algebra and Singularities Through the Lens of bi-Lipschitz Equivalence

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Abstract

Commutative algebra and singularities benefit from the many connections with each other. Commutative algebra provides the right objects for an infinitesimal theory for an equisingularity theory, and provides the correct invariants for controlling the equisingularity condition. Singularities provides motivation for the development of new ideas, and insights into how these ideas should be developed. In this talk I will describe some of these interactions in the development of an infinitesimal theory of bi-Lipschitz equisingularity.