

SEMINARIO DI GEOMETRIA

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Politecnico di Torino,
Dipartimento di Scienze Matematiche,
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Deformations and smoothability of Artin Gorenstein algebras

The simplest Artin \mathbb{C} -algebras are the reduced (equivalently, smooth) ones: they are products of several copies of \mathbb{C} . The *smoothable* algebras are obtained as limits of such algebras. It is, for reasons which I will explain, interesting to know which algebras are smoothable.

In the talk I will present a method of constructing families of Artin algebras, so-called *ray families*. They are used to prove smoothability of certain Artin Gorenstein algebras or, geometrically, irreducibility of Hilbert schemes of points parametrizing Gorenstein subschemes. Interestingly enough, the underlying idea is quite naïve.

This is a joint work with G. Casnati and R. Notari.