

Derived categories of hearts on Kuznetsov components ^[1]

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Descrizione:

Abstract: The study of the bounded derived category of coherent sheaves on a smooth projective variety is a central topic in algebraic geometry. Almost all the functors arising from geometric constructions are of Fourier-Mukai type, namely they can be described by an object in the derived category of a product. In this setting, Orlov proved in 1996 that every exact fully faithful functor with adjoints is of FM type. Since then, this result has been further generalized and a useful tool is to enhance the triangulated structure on the derived category to a dg category.

In this talk we consider certain admissible subcategories of the bounded derived category of cubic fourfolds, Gushel-Mukai varieties and quartic double solids, known as Kuznetsov components, and we show the strongly uniqueness of their dg enhancement making use of stability conditions with special properties. As application, we show that equivalences among the above mentioned Kuznetsov components are of FM type. This is the content of a joint work with Chunyi Li and Xiaolei Zhao.

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