U LISBOA | UNIVERSIDADE DE LISBOA

Seminário CEAFEL*

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Negative Calabi-Yau triangulated categories

Raquel Coelho Simões
(CEAFEL)

Abstract:
Calabi-Yau (CY) triangulated categories are those satisfying a useful and important duality, characterised by a number called the CY dimension. Much work has been carried out on understanding positive CY triangulated categories, especially in the context of cluster-tilting theory. Even though CY dimension is usually considered to be a positive (or fractional) number, there are natural examples of CY triangulated categories where this"dimension" or parameter is negative, for example, stable module categories of self-injective algebras. Therefore, negative CY triangulated categories constitute a class of categories that warrant further systematic study. In this talk, we will consider an important class of generating objects of negative CY triangulated categories, namely simple-minded systems and study their mutation behaviour. We will focus on an example given by triangulated categories generated by spherical objects, whose combinatorics plays a useful role in the study of its representation theory.

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***Centro de Análise Funcional, Estruturas Lineares e Aplicações**

Faculdade de Ciências da Universidade de Lisboa
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