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*Freely Connected Algebras*

In this talk, we consider  $A$  a triangular algebra. To each bound quiver  $(Q, I)$  of  $A$ , one can define an homotopy relation which lead to the definition of the fundamental group of the bound quiver. This group also can be related to a Galois covering of the bound quiver and thus of the algebra. In this talk, we present the quiver of homotopie of an algebra as define by P. Le Meur in [M06] together with some of the results of this work. Using this tecnic, we show that a monomial algebra (that is who admits a bound quiver with an ideal generated by paths) without double arrows is freely connected. An algebra is freely connected if all its associated fundamental groups are free groups. Some known exemples of freely connected algebras are the simply connected algebras and the finite representation type algebra. We also show an exemple of a monomial algebra with double arrows which is notfreely connected.

[M06] Le Meur, P., Revêtements galoisiens et groupe fondamental d'algèbres de dimension finie , thesis de doutorado, Université Montpellier II - Sciences et Techniques du Languedoc - (2006-02-10), Claude Cibils (Dir.)

Articles associated to this work:

[M05] Le Meur, P., The fundamental group of a triangular algebra without double bypasses, (English. English, French summary) C. R. Math. Acad. Sci. Paris 341 no. 4 (2005) 211-216.

[M05-2] Le Meur, P., The universal cover of an algebra without double bypasses, preprint 2005. arXiv:math.RT/0507513