EDSON RIBERO ALVARES
Universidade Federal do Parana - UFPR

Embedding of some translation quivers into $\mathbb{Z}\Delta$

In [Li], Size Li gave a proof that there is a embedding of a non semi-regular component of the Auslander-Reiten quiver of a tilted algebra containing non-oriented cycles in a quiver $\mathbb{Z}\Delta$. Coelho-Lanzilotta introduced the shod algebras and they proved that the strict shod algebras have only one non semi-regular component and all paths from an injective to a projective vertice in this component, have at most two hooks and when there are two, they are consecutives [CoLa1]. Reiten-Skowroński have proved that shod algebras have a double section Δ [ReSk]. We will show in this talk that there is a embedding of a non semi-regular component of the Auslander-Reiten quiver of a strict shod algebra in a quiver $\mathbb{Z}\widetilde{\Delta}$ where $\widetilde{\Delta}$ can be building from the double section Δ. We can consider this result in a general context.

Theorem: Let (Γ, τ) be a non semi-regular translation quiver with a double section Δ such that, all paths in Γ from an injective vertice to a projective vertice have at most two hooks and when there are two, they are consecutives. Then, there is a quiver $\widetilde{\Delta}$ such that (Γ, τ) can be embedded in the translation quiver $(\mathbb{Z}\widetilde{\Delta}, \rho)$.

We also show that a non semi-regular component of the Auslander-Reiten quiver of a weakly shod algebra (introduced in [CoLa2]) can not be embedded in a translation quiver $\mathbb{Z}\Delta$. [**CoLa1**] F.U. Coelho and M. Lanzilotta, *Algebras with small homological dimensions* , Manuscripta Mathematica **100**, (1999) 1-11. [**CoLa2**] F.U. Coelho and M. Lanzilotta, *Weakly shod algebras*, preprint, 2001. [**Li**] S. Li, *The embedding of the components of the Auslander-Reiten quiver of an Artin algebra containing no oriented cycle.*, Comm. Algebra **28** (2000), no. 10, 4635–4645. [**ReSk**] I. Reiten and A. Skowroński, *Characterization of algebras with small homological dimensions*, preprint, 2001.