

# THE AUSLANDER REITEN QUIVER OF THE CATEGORY $C_n(\text{proj}A)$

NILDA ISABEL PRATTI, CLAUDIA CHAIO AND MARÍA JOSÉ SOUTO SALORIO

ABSTRACT. Let  $A$  be an artin algebra. We denote by  $\text{mod}A$  the category of all the finitely generated right  $A$ -modules and by  $\text{proj}A$  the full subcategory of  $\text{mod}A$  consisting of all the finitely generated projective  $A$ -modules. We consider  $C_n(\text{proj}A)$  the full subcategory of  $C(\text{mod}A)$  whose objects are the complexes  $X = (X_i; d_i^r)_{i \in \mathbb{Z}}$  such that  $X_i = 0$  if  $i \notin \{1, \dots, n\}$  and  $X_i$  is projective if  $i \in \{1, \dots, n\}$ . These categories were introduced by R. Bautista in [B] for  $n = 2$  and later generalized in [BSZ] for  $n \geq 2$ . The authors consider such categories in order to study the Auslander-Reiten triangles in bounded derived categories of finitely generated modules over an artin algebra. These categories are exact with enough projective and injective objects and they have finite global dimension. In this talk, we are going to show how to build the Auslander-Reiten quiver of  $C_n(\text{proj}A)$  for  $A$  a finite-dimensional algebra over an algebraically closed field  $k$  and  $n \geq 2$ . In particular, we study some properties in  $C_n(\text{proj}H)$ , for  $H$  a hereditary algebra.

## REFERENCES

- [B] R, Bautista. *The category of morphisms between projectives modules*. SCommunications in Algebra 32 (11), (2004), 4303-4331.
- [BSZ] R, Bautista, M.J. Souto Salorio, *Almost split sequences for complexes of fixed size*. J. Algebra 287, (2005), 140-168.  
*E-mail address: Nilpratti@gmail.com*

UNIVERSIDAD NACIONAL DE MAR DEL PLATA, ARGENTINA