CORRECTION TO AUSLANDER-REITEN CONJECTURE FOR SYMMETRIC ALGEBRAS OF POLYNOMIAL GROWTH

The paper "Auslander-Reiten conjecture for symmetric algebras of polynomial growth" uses at some points the paper [3] by Zygmunt Pogorzały. Unfortunately the results of Pogorzały's paper are wrong, as was shown by Ariki, Iyama and Park [2].

Our results remain nevertheless basically true, since in a very recent preprint Antipov and Zvonareva prove independently the parts of Pogorzały's paper which we use. At one item in the statement Theorem 2.5 we need to elaborate further. More precisely, at the moment we are not sure yet if the statements on stable equivalence which is not of Morita type remains valid.

In particular, [1, Theorem 2] prove the Auslander-Reiten conjecture for stably equivalent finite dimensional algebras A and B, so that one of them is special biserial. Moreover, they show that an algebra stably equivalent to a special biserial algebra is stably biserial.

Pogorzały's result is used in the proofs of [4, Lemma 2.3, Proposition 2.4, and Theorem 2.5.]. In the proofs of Proposition 2.4 and Theorem 2.5 only the Auslander-Reiten conjecture for this class of algebras is used, and hence [1, Theorem 2] shows what is needed. As for Lemma 2.3 we only need to show that $A(1,n)$ is not stably equivalent to $\Omega(n)$. However, our arguments using Külshammer ideals give that $A(1,n)$ is not stably equivalent of Morita type to $\Omega(n)$. Reformulating Theorem 2.5 such that we only give a classification up to stable equivalence of Morita type remains correct.

References

[1] Mikhil Antipov and Alexandra Zvonareva, *On stably biserial algebras and the Auslander-Reiten conjecture for special biserial algebras*, arXiv:1711.05021v1, preprint 14 November 2017.

[2] S. Ariki, K. Iijima, E. Park, *Representation type of finite quiver Hecke algebras of type $A_\ell^{(1)}$ for arbitrary parameters,* International Mathematics Research Notices **15** (2015), 6070-6135.

[3] Zygmund Pogorzały, *Algebras stably equivalent to self-injective special biserial algebras*; Comm. Algebra **22** (1994), no. 4, 1127-1160

[4] Guodong Zhou and Alexander Zimmermann; *Auslander-Reiten conjecture for symmetric algebras of polynomial growth* "Beitrge zur Algebra und Geometrie" **53** (2012) 349-364.

Date: December 4, 2017.