

Derived categories, recollements and applications

STEFFEN KOENIG

(in collaboration with Lidia Angeleri Hügel, Yiping Chen, Ming Fang, Wei Hu, Qunhua Liu and Dong Yang)

Institute of Algebra and Number Theory, University of Stuttgart, Pfaffenwaldring 57, 70569 Stuttgart, Germany

Equivalences and recollements of derived categories can be used to determine properties and invariants of algebras, for instance homological dimensions (such as global and dominant dimension), K-theory and ring structure (such as being symmetric or self-injective). Some examples and methods will be presented.

References

- [1] L. Angeleri Hügel, S. Koenig, Q. Liu and D. Yang, Ladders and simplicity of derived module categories. arXiv:1310.3479.
- [2] Y. Chen and S. Koenig, Recollements of self-injective algebras and self-injectivity of diagram algebras. Preprint (2016).
- [3] M. Fang, W. Hu and S. Koenig, Derived equivalences, restriction to self-injective subalgebras and invariance of homological dimensions. Preprint (2016).