

# Classifying $t$ -structures of derived categories

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In this talk we consider classifying  $t$ -structures of the bounded derived category  $D^b(\text{mod } R)$  of finitely generated modules over a commutative noetherian ring  $R$ . Alonso Tarrío, Jeremías López and Saorín give a complete classification of the  $t$ -structures of  $D^b(\text{mod } R)$  in terms of certain filtrations by supports of  $\text{Spec } R$  in the case where  $R$  admits a dualizing complex. We try to do the same classification in a more general setting. Our key tool is Faltings' annihilator theorem on local cohomology.

## References

- [1] L. Alonso Tarrío, A. Jeremías López and M. Saorín, Compactly generated t-structures on the derived category of a Noetherian ring, *J. Algebra* 324 (2010), no. 3, 313–346.
- [2] R. Takahashi, Faltings' annihilator theorem and t-structures of derived categories, to appear in *Math. Z.*, arXiv:2208.04455.