

## Cosilting modules over cluster-tilted algebras of type $\tilde{\mathbb{A}}$

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The definition of a cosilting module over a finite-dimensional algebra  $A$  generalises that of a support  $\tau^{-1}$ -tilting module, allowing us to also consider infinite-dimensional modules. The definition simultaneously generalises that of a (large) 1-cotilting module and, in fact, the 1-cotilting modules are exactly the faithful cosilting modules. Such modules are fundamental in the study of torsion pairs in  $\text{Mod}(A)$  as they parametrise the torsion pairs with definable torsion-free class, or equivalently, the torsion pairs whose HRS-tilt has a Grothendieck heart.

In this talk I will report on joint work with Karin Baur in which we show that cosilting modules over a finite-dimensional algebra may be understood in terms of certain ‘maximal rigid’ collections of indecomposable pure-injective modules. Using this characterisation, we show that the (equivalence classes of) cosilting modules over cluster-tilted algebras of type  $\tilde{\mathbb{A}}$  are in bijection with asymptotic triangulations of the annulus.