

On the representation dimension of finite dimensional algebras

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The representation dimension of artin algebra was introduced by Auslander. He showed that an artin algebra is representation-finite if and only if its representation dimension equals two, which made him expect that this invariant would give a measure of how far an algebra is from being representation-finite. In the past few years it was proven that many classes of algebras have representation dimension at most three. For instance, tilted, quasitilted, cluster-concealed and ada algebras. This show us that the behavior of the module categories of algebras with representation dimension three can be very different, including tame and wild algebras.