

1059-13-155

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Late in his career, Auslander conjectured that every finitely generated module M over a reasonable algebra—such as a commutative artinian local one—would have a latent projective dimension. That is, a number $a(M)$ such that if the cohomology of M with coefficients in a finitely generated module N —i.e. $\text{Ext}^*(M, N)$ —vanishes in high degrees, then it vanishes from degree $a(M)$.

The conjecture was disproved seven years ago. It is, however, known that modules over “many” rings do have such a latent projective dimension, but one does not yet understand how this property of a ring relates to classically studied ones. Towards this end, we study the behavior of the property under standard constructions with ring, and in the talk I will discuss recent results about transfer of the property along homomorphisms of local rings. (Received February 22, 2010)