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Liana Segal* (segal@umkc.edu). *Self-tests for finite projective dimension over artinian rings.*

Let R is a commutative noetherian ring. The commutative version of the Auslander-Reiten conjecture states: For every finitely generated R -module M , if $\text{Ext}_R^i(M, M \oplus R) = 0$ for all $i > 0$, then M has finite projective dimension. Counterexamples to a related conjecture of Auslander, which implies the Auslander-Reiten conjecture, are known, yet they fail to disprove the later. In this talk we will shed more light on this “failure” and show that certain classes of artinian rings satisfy the Auslander-Reiten conjecture. We also give evidence for a test for finite projective dimension involving vanishing of $\text{Tor}_i^R(M, M)$. (Received April 13, 2010)