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Marju Purin* (purin@stolaf.edu), Department of Mathematics, Statistics, and Computer Science, St. Olaf College, Northfield, MN 55057. *τ -Complexity.*

Let τ denote the Auslander-Reiten translate. The τ -complexity of a module measures the rate of growth of the dimensions of the modules in its τ -orbit. In this talk we determine the τ -complexity of all modules over cluster-tilted algebras. We show that a module over a cluster-tilted algebra can have only one of the following possible complexities: 0, 1, 2 or infinity. We then explain when each possibility occurs. (Received January 31, 2014)