

1007-16-133

Raymundo Bautista* (raymundo@matmor.unam.mx), Instituto de Matematicas UNAM (Morelia) A.P., 61-3 Xangari, 58089 Morelia, Michoacan, Mexico. *Derived discrete artin algebras and generic complexes*. Preliminary report.

Let A be an artin algebra over an infinite commutative artinian ring k . We denote by $D^b(A)$ the bounded derived category of $modA$ the category of the finitely generated left A -modules. By $D^b(ModA)$ we denote the bounded derived category of $ModA$ the category of all left A -modules. The algebra A is called derived discrete if for any sequence of non-negative numbers $(h_i)_{i \in \mathbb{Z}}$ there are only finitely many isomorphism classes of indecomposable objects $X \in D^b(A)$ with $length_k H^i(X) = h_i$ for all $i \in \mathbb{Z}$.

An indecomposable object $X \in D^b(ModA)$ is called generic if X is not in $D^b(A)$ and for all $i \in \mathbb{Z}$, $H^i(X)$ has finite length as a module over the endomorphism ring of X in $D^b(ModA)$. We will prove that A is not derived discrete if and only if there is a generic object in $D^b(ModA)$. (Received February 16, 2005)