RAYMUNDO BAUTISTA, Universidad Nacional Autónoma de México, Unidad Morelia, Apartado Postal 61-3 (Xangari), CP 58089 Morelia, Michoacán, México

Representations of tame algebras over rational functions

In the following we use the following notation. If B is a finite-dimensional algebra over a field F, we denote by $B\text{-mod}$ the category of finitely generated left B-modules. By $F(x)$ we denote the field of rational functions over x. We put $F(x,y) = F(x)(y)$.

Let A be a finite-dimensional algebra over the algebraically closed field k. We put $A^{k(x)} = A \otimes_k k(x)$ and $A^{k(x,y)} = A \otimes_k k(x,y)$.

We prove the following result:

Theorem *The algebra A is of tame representation type if and only if for any indecomposable object M in $A^{k(x,y)}\text{-mod}$ such that ${}_{A^{k(y)}}M$ is an indecomposable $A^{k(y)}$-module, there is an indecomposable object N in $A^{k(x)}\text{-mod}$ with ${}_AN$ an indecomposable A-module such that*

$$M \cong N \otimes_{k(x)} k(x,y).$$

Joint work with Leonardo Salmeron.