

Reducible families of local Artinian Gorenstein algebras of given Hilbert function

Pedro Macias Marques

We study local Artinian Gorenstein (AG) algebras and consider the set of Jordan types of elements of the maximal ideal, i.e. the partition giving the Jordan blocks of the respective multiplication map.

In a joint work with Tony Iarrobino, we construct examples of families $\text{Gor}(T)$ of local AG algebras with given Hilbert function T , and use obstructions that the symmetric decomposition of the associated graded algebra of an AG algebra A imposes on the Jordan type of A to study their irreducible components.