Anthony A. Iarrobino* (a.iarrobino@neu.edu) and Pedro Macias Marques. Jordan type for some Artinian local Gorenstein algebras. Preliminary report.

The Jordan type of an Artinian algebra is the Jordan block partition associated to multiplication by a generic element of the maximal ideal. We study the Jordan type for Artinian Gorenstein (AG) local (non-graded) algebras \( A \) and the interaction of Jordan type with the symmetric decomposition of the (non-symmetric) Hilbert function \( H(A) \). We give examples where the family \( \text{Gor}(H) \) of AG algebras having Hilbert function \( H \) has two or more irreducible components. These examples result from the intersection of two filtrations of the family \( \text{Gor}(H) \): the filtration by Jordan type satisfies the usual orbit-closure dominance property; the second filtration, by symmetric decomposition, satisfies a known semi-continuity property. Their intersection can force there to be several irreducible components to \( \text{Gor}(H) \), in codimension three or higher. (Received August 03, 2020)