

1100-14-42

Mats Boij, Juan C. Migliore* (migliore.1@nd.edu), **Rosa Maria Miro-Roig, Uwe Nagel**
and **Fabrizio Zanello**. *On the Weak Lefschetz Property for artinian Gorenstein algebras of
codimension 3.*

We study the problem of whether an arbitrary codimension three graded artinian Gorenstein algebra has the Weak Lefschetz Property. We reduce this problem to checking whether it holds for all compressed Gorenstein algebras of odd socle degree. In the first open case, namely Hilbert function $(1, 3, 6, 6, 3, 1)$, we give a complete answer in every characteristic by translating the problem to one of studying geometric aspects of certain morphisms from \mathbb{P}^2 to \mathbb{P}^3 , and Hesse configurations in \mathbb{P}^2 . (Received January 21, 2014)