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Title: Developable cubics in \mathbb{P}^4 and the Lefschetz locus in $GOR(1, 5, 5, 1)$

Abstract: We classify, up to projective transformations, the developable cubic hypersurfaces in \mathbb{P}^4 . They correspond to hyperplane sections of the secant variety of the Veronese surface $V(2, 2) \in \mathbb{P}^5$. From Macaulay-Matlis duality we investigate the impact of this result in $GOR(1, 5, 5, 1)$, the space standard graded Artinian Gorenstein algebras whose Hilbert vector is $(1, 5, 5, 1)$. We describe the locus $GOR(1, 5, 5, 1)$ from this perspective and we determine the locus $X \subset GOR(1, 5, 5, 1)$ of algebras that do not satisfy the Lefschetz property. It correspond to the following Jordan type: $(4, 2, 2, 2, 1, 1)$.