

COMPLETE INTERSECTION ARTINIAN ALGEBRAS PRESENTED BY QUADRICS AND LEFSCHETZ PROPERTIES

FILIPPO F. FAVALE

ABSTRACT. In this talk, I will present some geometric-differential techniques developed in collaboration with Davide Bricalli and Gian Pietro Pirola in order to study weak and strong Lefschetz properties for standard Artinian Gorenstein algebras (for brevity, SAGAs). We will apply these techniques to investigate complete intersection SAGAs presented by quadrics, aiming to prove the validity of some Lefschetz properties for them. In particular, we will deal with the strong Lefschetz property for the cases of codimensions 5 and 6 and give some partial results for higher codimensions. This talk is based on the papers [1],[2] and [3].

REFERENCES

- [1] D. Bricalli and F. Favale, Lefschetz properties for jacobian rings of cubic fourfolds and other Artinian algebras, Preprint available at arXiv:2204.09361v1 (2022).
- [2] D. Bricalli, F. Favale, and G. P. Pirola, A theorem of Gordan and Noether via Gorenstein Rings, Preprint available at arXiv:2201.07550 (2022).
- [3] F. F. Favale and G. P. Pirola, Infinitesimal variation functions for families of smooth varieties, Milan J. Math. (2022) DOI 10.1007/s00032-022-00353-2.

UNIVERSITÀ DEGLI STUDI DI PAVIA

Email address: `filippo.favale@unipv.it`

URL: `http://fcubo.altervista.org/`