

**Rackwitz, H.-G.**

**Birational geometry of complete intersections.** (English) Zbl 0907.14023  
Abh. Math. Semin. Univ. Hamb. 66, 263-271 (1996).

Let  $Y \subset \mathbb{P}^n$  be a smooth complete intersection. The author studies the cohomology groups of symmetric differential forms  $S^r \Omega_Y^1$  on  $Y$ . Some vanishing theorems and explicit formulas for  $\dim H^q(Y, S^r \Omega_Y^1)$  are proved. In particular, it is shown that the birational invariants  $\dim H^0(Y, S^r \Omega_Y^1 \otimes \omega_Y^s)$  are independent of classical invariants.

Reviewer: Yuri G.Prokhorov (MR 97g:14016)

**MSC:**

[14M10](#) Complete intersections  
[14E05](#) Rational and birational maps  
[14F17](#) Vanishing theorems in algebraic geometry

Cited in 1 Document

**Keywords:**

complete intersection; symmetric differential forms; vanishing theorems; birational invariants

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**References:**

- [1] F. A. Bogomolov, Holomorphic symmetrical tensors on projective surfaces (Russian).Usp. Mat. Nauk. 33 (1978), 171–172. · [Zbl 0417.15012](#)
- [2] R. Bott, Homogenous vector bundles.Ann. of Math. 66 (1957), 203–248. · [Zbl 0094.35701](#) · [doi:10.2307/1969996](#)
- [3] P. Brückmann, Some birational invariants of algebraic varieties. Proceedings of the Conference on Algebraic Geometry, Teubner-Texte Math. 92 (1985), 65–73.
- [4] —, The Euler-Poincaré-characteristic of the sheaf of  $T$ -symmetrical tensor forms on complete intersections, to appear.
- [5] P. Brückmann and H.-G. Rackwitz,  $T$ -symmetrical tensor forms on complete intersections.Math. Ann. 288 (1990), 627–635. · [Zbl 0724.14032](#) · [doi:10.1007/BF01444555](#)
- [6] Ph. Griffiths and J. Harris, Principles of Algebraic Geometry. John Wiley & Sons, New York, Chichester, Brisbane, Toronto, (1978). · [Zbl 0408.14001](#)
- [7] F. Hirzebruch, Topological Methods in Algebraic Geometry. 3.Aufl., Grundleh. 131, Springer-Verlag, Heidelberg, (1966) · [Zbl 0138.42001](#)
- [8] L. Manivel, Birational invariants of algebraic varieties.J. reine angew. Math. 458 (1995), 63–91. · [Zbl 0811.14008](#) · [doi:10.1515/crll.1995.458.63](#)
- [9] F. Sakai, Symmetric powers of the cotangent bundle and classification of algebraic varieties. Lect. Notes in Math. 732, Springer-Verlag, Berlin-Heidelberg-New York, (1979). · [Zbl 0415.14020](#)
- [10] M. Schneider, Symmetric differential forms as embedding obstructions and vanishing theorems.J. of Algebraic Geometry 1 (1992), 175–181. · [Zbl 0790.14009](#)

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