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A note on generic Clifford algebras of binary cubic forms.  (English)  Zbl 1466.16013


Summary: We study the representation theoretic results of the binary cubic generic Clifford algebra \( C \), which is an Artin-Schelter regular algebra of global dimension five. In particular, we show that \( C \) is a PI algebra of PI degree three and compute its point variety and discriminant ideals. As a consequence, we give a necessary and sufficient condition on a binary cubic form \( f \) for the associated Clifford algebra \( C_f \) to be an Azumaya algebra.

MSC:

16G30  Representations of orders, lattices, algebras over commutative rings
16H05  Separable algebras (e.g., quaternion algebras, Azumaya algebras, etc.)
11E88  Quadratic spaces; Clifford algebras

Keywords:

Clifford algebra; point variety; discriminant ideals

Full Text: DOI

References:


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