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Invariants of AS-Regular Algebras: Complete Intersections

Let G be a finite group acting on an Artin–Schelter regular $\mathbb{C}$-algebra A. Extending results of Watanabe we give conditions when the invariant subring A^G is an Artin–Schelter Gorenstein algebra. When $A = \mathbb{C}[x_1, \ldots, x_n]$ Gordeev (1986) and Nakajima (1984) independently determined when A^G is a complete intersection. We discuss extending these results to other Artin–Schelter regular algebras.