

Global, Krull and Goldie dimensions of skew PBW extensions

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Abstract

Skew PBW extensions and its localizations include a wide variety of rings and algebras of interest for modern mathematical physics such as PBW extensions, well known classes of Ore algebras, operator algebras, diffusion algebras, quantum algebras, quadratic algebras in 3-variables, skew quantum polynomials, among many others. In this paper we estimate the global, Krull and Goldie dimensions for bijective skew PBW extensions as well as for skew quantum polynomials over rings.

Key words and phrases. Noetherian and regular non-commutative rings, graded rings and modules, PBW extensions, quantum algebras, skew quantum polynomials, global, Krull and Goldie dimensions.

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