

Non-associative skew Laurent polynomial rings

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a joint work with

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Abstract

In this talk, I will introduce non-associative generalizations of skew Laurent polynomial rings and some related rings, such as skew polynomial rings, skew power series rings and skew Laurent series rings. The focus will mainly be on the former rings and results concerning their ideals, such as when they are simple and generalizations of the famous Hilbert's basis theorem. In particular, for non-associative skew Laurent polynomial rings, I will show that both a left and a right version of Hilbert's basis theorem hold. For non-associative skew polynomial rings, I will show that a right version holds, but will give a counterexample to a left version; a difference that does not appear in the associative setting. The talk is based on joint work with J. Richter [1].

Keywords

non-associative Hilbert's basis theorem, non-associative Ore extensions, non-associative skew Laurent polynomial rings, non-associative skew Laurent series rings, non-associative skew power series rings.

References

- [1] P. Bäck and J. Richter, *Hilbert's basis theorem and simplicity for non-associative skew Laurent polynomial rings and related rings*, arXiv:2207.07994.