

NON-ASSOCIATIVE, NON-COMMUTATIVE POLYNOMIAL RINGS

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Abstract: I will give a brief introduction to non-associative, non-commutative polynomial rings known as hom-associative Ore extensions. These are generalizations of the latter to the non-associative setting, the associativity condition twisted by a homomorphism; hence the hom. Within this framework, we construct a hom-associative Hilbert's basis theorem and families of hom-associative Weyl algebras and quantum planes, these being generalizations of their classical counterparts to the hom-associative setting.