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Standard bases for ideals of free algebras over commutative rings

Standard Gröbner-Shirshov bases of ideals of free associative algebras and free (super)algebras over finitely generated commutative rings are under consideration. The main result is a criterion for a subset of free algebras to be a standard basis (reduced standard basis) of the ideal it generates. We obtain also an infinite algorithm to construct standard bases of ideals.

Reference: A. A. Mikhalev, and A. A. Zolotykh, Standard Gröbner-Shirshov bases of free algebras over rings, I. Free associative algebras, *Int. J. Algebra Comput.* , in press.