

On Groebner bases in semigroup rings of partially ordered semigroups.

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The paper discusses the theory of Groebner bases for ideals in semigroup rings of partially ordered semigroups. The finiteness theorems in classical theory, for example, the finiteness of reduced Grobner bases or the finiteness of the universal Grobner basis, are based on Dickson's lemma for a set of monomials of a finite number of variables and its generalization to decreasing ordinal ideals in the set of monomials. We prove analogs of Dixon's lemma for descending ordinal ideals of Dicksonian partially ordered sets and give an answer to the question of finiteness of the universal Groebner bases in semigroup rings of partially ordered Dicksonian sets.

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