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NON-DETERMINISTIC LINEAR HYPERSUBSTITUTIONS

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Abstract

A non-deterministic hypersubstitution maps operation symbols to sets of terms of the corresponding arity. A non-deterministic hypersubstitution of type τ is said to be linear if it maps any operation symbol to a set of linear terms of the corresponding arity. We show that the extension of non-deterministic linear hypersubstitutions of type τ map sets of linear terms to sets of linear terms. As a consequence, the collection of all non-deterministic linear hypersubstitutions forms a monoid. Non-deterministic linear hypersubstitutions can be applied to identities and to algebras of type τ.

Keywords: linear term, non-deterministic linear hypersubstitution.

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