

MAXIMAL SUBMONOIDS OF MONOIDS OF HYPERSUBSTITUTIONS

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Abstract

For a monoid M of hypersubstitutions, the collection of all M -solid varieties forms a complete sublattice of the lattice $\mathcal{L}(\tau)$ of all varieties of a given type τ . Therefore, by the study of monoids of hypersubstitutions one can get more insight into the structure of the lattice $\mathcal{L}(\tau)$. In particular, monoids of hypersubstitutions were studied in [9] as well as in [5]. We will give a complete characterization of all maximal submonoids of the monoid $Reg(n)$ of all regular hypersubstitutions of type $\tau = (n)$ (introduced in [4]). The concept of a transformation hypersubstitution, introduced in [1], gives a relationship between monoids of hypersubstitutions and transformation semigroups. In the present paper, we apply the recent results about transformation semigroups by I. Gydzenov and I. Dimitrova ([11], [12]) to describe monoids of transformation hypersubstitutions.

Keywords: regular hypersubstitutions, maximal monoids of hypersubstitutions, transformation semigroups.

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