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Maximal left regular submonoids and right regular submonoids of $Hyp_G(n)^*$

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Abstract. A generalized hypersubstitution of type $\tau = (n)$ is a mapping which maps each n -ary operation symbol to a term which does not necessarily preserve the arity. For every generalized hypersubstitution can be extended to a mapping defined on the set of all terms of type $\tau = (n)$. Then we can define a binary operation on the set of all generalized hypersubstitutions of type $\tau = (n)$ and it turns out that the set together with this binary operation forms a monoid. The concepts of left regular and right regular elements are important role in semigroup theory. In this paper, we characterize the set of all left regular and the set of all right regular elements of the monoid of all generalized hypersubstitutions of type $\tau = (n)$ and we determine all maximal left regular submonoids and all maximal right regular submonoids of this monoid.

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