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## Hyper $\beta$ -languages of order $n$

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**Abstract.**  $\beta$ -languages of order  $n$  have been introduced by the authors of [9]. In [5], the authors have shown that the class of  $\beta$ -languages of order  $n$  is closed under union, concatenation and star-closure operations. In this paper, we show that the class of  $\beta$ -languages of order  $n$  is not closed under substitution operation. Motivated by this, we introduce the notion of hyper  $\beta$ -languages of order  $n$  ( $n \geq 1$ ) and show that the class of hyper  $\beta$ -languages of order  $n$  is closed under substitution, union, concatenation and star-closure operations.

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