

Semigroups of tree languages

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Sets of terms of type τ are called *tree languages*. There are several possibilities to define superposition operations on sets of tree languages. On the basis of such superposition operations we define binary associative operations on tree languages and investigate the properties of the arising semigroups. We characterize idempotent and regular elements and Green's relations \mathcal{L} and \mathcal{R} . Moreover, we determine constant, left-zero and right-zero subsemigroups and rectangular bands.