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The language equivalence problem for HD0L systems having D0L growths. (English summary)

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An HD0L-system $H = (X, Y, g, h, w)$ consists of finite alphabets X and Y, morphisms $g\colon X^* \to X^*$ and $h\colon X^* \to Y^*$, and a word w over X. The sequence $S(H)$ generated by H is $h(w)$, $hg(w)$, $hg^2(w), \ldots$; the language $L(H)$ of H is defined by $L(H) = \{hg^n(w) \mid n \geq 0\}$; and the length sequence of H is defined by $(|hg^n(w)|)_{n\geq 0}$. An ND0L-system is an HD0L-system (X, Y, g, h, w) with h nonerasing. A D0L-system (X, g, w) is an HD0L-system (X, Y, h, g, w) such that $Y = X$ and h is the identity mapping. An HD0L-system H has "D0L growth" if the length sequence of H equals the length sequence of some D0L-system.

The author's main results are: For HD0L-systems H_1 and H_2 having D0L growth, it is decidable whether or not $L(H_1) = L(H_2)$. The ND0L language equivalence problem is decidable.

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Note: This list reflects references listed in the original paper as accurately as possible with no attempt to correct errors.