

Okhotin, Alexander**Non-erasing variants of the Chomsky-Schützenberger theorem.** (English) [Zbl 1370.68211](#)

Yen, Hsu-Chun (ed.) et al., Developments in language theory. 16th international conference, DLT 2012, Taipei, Taiwan, August 14–17, 2012. Proceedings. Berlin: Springer (ISBN 978-3-642-31652-4/pbk). Lecture Notes in Computer Science 7410, 121-129 (2012).

Summary: The famous theorem by *N. Chomsky* and *M. P. Schützenberger* [in: Computer programming and formal systems, Stud. Logic Found. Math., 118–161 (1963; [Zbl 0148.00804](#))] states that every context-free language is representable as $h(D_k \cap R)$, where D_k is the Dyck language over $k \geq 1$ pairs of brackets, R is a regular language and h is a homomorphism. This paper demonstrates that one can use a non-erasing homomorphism in this characterization, as long as the language contains no one-symbol strings. If the Dyck language is augmented with neutral symbols, the characterization holds for every context-free language using a letter-to-letter homomorphism.

For the entire collection see [\[Zbl 1248.68052\]](#).

MSC:[68Q70](#) Algebraic theory of languages and automataCited in **6** Documents**Full Text:** [DOI](#)