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The permutative λ -calculus. (English) [Zbl 1352.03019](#)

Bjørner, Nikolaj (ed.) et al., Logic for programming, artificial intelligence, and reasoning. 18th international conference, LPAR-18, Mérida, Venezuela, March 11–15, 2012. Proceedings. Berlin: Springer (ISBN 978-3-642-28716-9/pbk). Lecture Notes in Computer Science 7180, 23-36 (2012).

Summary: We introduce the permutative λ -calculus, an extension of λ -calculus with three equations and one reduction rule for permuting constructors, generalising many calculi in the literature, in particular Regnier's sigma-equivalence and Moggi's assoc-equivalence. We prove confluence modulo the equations and preservation of beta-strong normalisation (PSN) by means of an auxiliary substitution calculus. The proof of confluence relies on M-developments, a new notion of development for λ -terms.

For the entire collection see [\[Zbl 1238.68012\]](#).

MSC:

03B40 Combinatory logic and lambda calculus

Cited in 4 Documents

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