

**Takahashi, Masako****Parallel reductions in  $\lambda$ -calculus.** (English) Zbl 0661.03008

J. Symb. Comput. 7, No. 2, 113-123 (1989).

The notion of parallel reduction is extracted from the Tait-Martin-Löf proof of the Church-Rosser theorem (for  $\beta$ -reduction). We define parallel  $\beta$ -,  $\eta$ - and  $\beta \eta$ -reduction by induction, and use them to give simple proofs of some fundamental theorems in  $\lambda$ -calculus; the normal reduction theorem for  $\beta$ -reduction, that for  $\beta \eta$ -reduction, the postponement theorem of  $\eta$ -reduction (in  $\beta \eta$ -reduction), and some others.

**MSC:**

03B40 Combinatory logic and lambda calculus

Cited in **1** Review  
Cited in **11** Documents**Keywords:**parallel reduction;  $\lambda$ -calculus**Full Text:** [DOI](#)**References:**

- [1] Barendregt, H.P., ()
- [2] Klop, J.W., ()
- [3] Levy, J.J., An algebraic interpretation of the  $\lambda$ - $\beta$ -K calculus and a labelled  $\lambda$ -calculus, Springer lec. notes comp., 37, 147-165, (1975)

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