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Existential type systems with no types in terms. (English) Zbl 1246.03028

Curien, Pierre-Louis (ed.), Typed lambda calculi and applications. 9th international conference, TLCA 2009, Brasilia, Brazil, July 1–3, 2009. Proceedings. Berlin: Springer (ISBN 978-3-642-02272-2/pbk). Lecture Notes in Computer Science 5608, 112-126 (2009).

Summary: We study type checking, typability, and type inference problems for type-free-style and Curry-style second-order existential systems where the type-free style differs from the Curry style in that the terms of the former contain information on where the existential quantifier elimination and introduction take place but omit the information on which types are involved. We show that all the problems are undecidable employing reduction of second-order unification in case of the type-free system and semiunification in case of the Curry style system. This provides a fine border between problems yielding to a reduction of second-order unification problem and the semiunification problem. In addition, we investigate the subject reduction property of the system in the Curry-style.

For the entire collection see [\[Zbl 1165.03001\]](#).

MSC:

- [03B40](#) Combinatory logic and lambda calculus
- [03B15](#) Higher-order logic; type theory (MSC2010)
- [03B70](#) Logic in computer science

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