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Flag-based big-step semantics

Casper Bach Poulsen, Peter D. Mosses

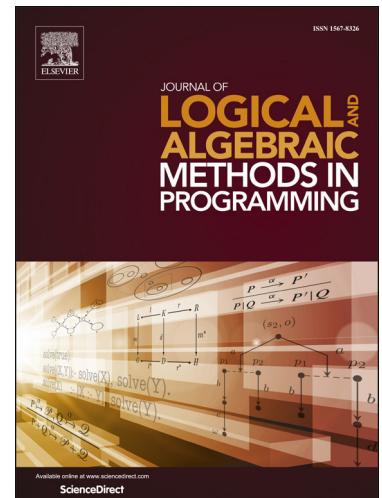
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Highlights

- We present a novel lightweight approach to representing divergence and abrupt termination in structural operational semantics.
- Our approach to divergence alleviates the duplication problem in big-step semantics and uses fewer rules and premises than traditional approaches in the literature.
- We illustrate how threading of the flag arguments through evaluation formulae could be automated. This facilitates deriving flag-based big-step rules from standard big-step SOS rules.
- We present a novel proof method for proving the equivalence of diverging computations in small-step and big-step SOS with non-deterministic interactive input.

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