

Logic-based Concurrent λ -Calculi

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Abstract

We add to intuitionistic logic infinitely many classical disjunctive tautologies and use the Curry-Howard correspondence to obtain typed concurrent lambda-calculi; each of them features a specific communication mechanism, including broadcasting and cyclic message-exchange, and enhanced expressive power with respect to the lambda-calculus. Moreover they all implement forms of code mobility. Our results provide a first concurrent computational interpretation for many propositional intermediate logics, classical logic included.