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Matching in the \pi-calculus.  (English) [Zbl 1464.68257]


Summary: We study whether, in the \pi-calculus, the match prefix – a conditional operator testing two names for (syntactic) equality – is expressible via the other operators. Previously, Carbone and Maffeis proved that matching is not expressible this way under rather strong requirements (preservation and reflection of observables). Later on, Gorla developed a by now widely-tested set of criteria for encodings that allows much more freedom (e.g. instead of direct translations of observables it allows comparison of calculi with respect to reachability of successful states). In this paper, we offer a considerably stronger separation result on the non-expressibility of matching using only Gorla’s relaxed requirements.

For the entire collection see [Zbl 1433.68010].

MSC:

68Q85 Models and methods for concurrent and distributed computing (process algebras, bisimulation, transition nets, etc.)

Full Text: Link