

Yevtushenko, N., Villa, T., Brayton, R., Petrenko, A. and Sangiovanni-Vincentelli, A. "Compositionally Progressive Solutions of Synchronous Language Equations" In *Proceedings of the IEEE/ACM 12th International Workshop on Logic & Synthesis (IWLS'03)*. Laguna Beach, California, USA, May 28-30, 2003.

Abstract

The paper addresses the problem of designing a component that combined with a known part of a system, called the context FSM, is a reduction of a given specification FSM. We study compositionally progressive solutions of synchronous FSM equations. Such solutions, when combined with the context, do not block any input that may occur in the specification, so they are of practical use. We show that if a synchronous FSM equation has a compositionally progressive solution, then the equation has the largest compositionally progressive solution. However, not each reduction of the largest compositionally progressive solution is compositionally progressive. Since generally the number of reductions is infinite, the problem of characterizing all progressive solutions is non-trivial.