

Petrenko, A., Yevtushenko, N. "Conformance Tests as Checking Experiments for Partial Nondeterministic FSM" In *Proceedings of the 5th International Workshop on Formal Approaches to Testing of Software (FATES 2005)*, pp. 185-2006. Edinburgh, Scotland, UK. September 11, 2005. [LNCS 3397].

**Abstract**

The paper addresses the problem of conformance test generation from input/output FSMs that might be partially specified and nondeterministic. Two conformance relations are considered, quasi-reduction and quasi-equivalence. The former requires that in response to each input sequence defined in a specification FSM, a conforming implementation FSM produces only output sequences of the specification FSM, while the latter is stronger: a conforming implementation FSM must produce all of them and nothing else. For each relation, a test generation method is elaborated. The resulting tests are proven to be complete, i.e., sound and exhaustive, for a given bound on the number of states; they include as special cases checking experiments for deterministic FSMs.