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Error-free affine, unitary, and probabilistic OBDDS

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Abstract

© IFIP International Federation for Information Processing 2018. We introduce the affine OBDD model and show that zero-error affine OBDDs can be exponentially narrower than bounded-error unitary and probabilistic OBDDs on certain problems. Moreover, we show that Las Vegas unitary and probabilistic OBDDs can be quadratically narrower than deterministic OBDDs. We also obtain the same results for the automata versions of these models.

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Keywords

Affine models, Las Vegas computation, OBDDs, Quantum and probabilistic computation, Succinctness, Zero-error

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