

Classical simulation complexity of quantum machines

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Abstract

We present a classical probabilistic simulation technique of quantum Turing machines. As a corollary of this technique we obtain several results on relationship among classical and quantum complexity classes such as: $\text{PrQP} = \text{PP}$, $\text{BQP} \subseteq \text{PP}$ and $\text{PrQSPACE}(S(n)) = \text{PrPSPACE}(S(n))$. © Springer-Verlag Berlin Heidelberg 2003.
