Computational property of quantum annealing of integer factorization problem

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The computational property of the prime factorization in quantum annealing is investigated with focuses on quantum phase transition. A Hamiltonian constructed in the sense of a combinatorial-optimization problem is considered. On the Hamiltonian, the quantum phase transition and minimal energy gap is discussed via the numerical diagonalization and the quantum Monte Carlo simulation. The classical version of this study is uploaded to arXiv as [1].

[1] C. Nakajima, M. Ohzrki, arXiv:1605.01310.