**Noisy Quantum Computing**

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**Abstract:**

Based on the general theory of quantum devices as an open quantum system we developed for electronic systems, photonic systems and topological systems, we find that no unitary operations or manipulations could be performed for any realistic quantum systems, no matter it is a superconducting qubit system, or a photonic quantum circuit or a superconductor-semiconductor hybrid system of Majorana zero modes for topological quantum computer. Quantum manipulations are all noisy, not only for intermediate-size but for all kind of size quantum algorithms. No practical unitary evolution (operation) exists for subparts of multi-qubit systems. The thermalization of multi-qubit systems is universal and probability is intrinsic, therefore probably only quantum simulation is reliable.

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