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Quantum Computing in the NISQ Era

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Message from the Guest Editors

This Special Issue will focus on recent theoretical and experimental developments of quantum computing in the NISQ era. This Special Issue will accept unpublished original papers and comprehensive reviews focused on (but not restricted to) the following research areas:

- Design of more efficient variational quantum algorithms;
- Analysis of the performance of hybrid quantum-classical algorithms;
- Theoretical tools for studying the expressivity of ansatz and trainability of variational quantum algorithms;
- Applications of quantum algorithms for chemistry, materials, and other physics problems;
- Applications of quantum algorithms in machine learning, combinatorial problems, and other problems beyond physics;
- Quantum error mitigation;
- Quantum error correction;
- Benchmarking the performance and power of NISQ devices;
- Experimental realization of variational quantum algorithms.



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Special Issue



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Message from the Editor-in-Chief

The concept of entropy is traditionally a quantity in physics that has to do with temperature. However, it is now clear that entropy is deeply related to information theory and the process of inference. As such, entropic techniques have found broad application in the sciences.

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