Special Issue

Superconducting Quantum Computing and Devices

Message from the Guest Editor

Due to its scalability, superconducting qubit based on Josephson junction circuits has become one of the most promising candidates for realizing practical quantum computation and quantum simulation. Although fault-tolerant quantum computing remains a challenge, with the recent demonstrations of quantum advantage, superconducting quantum computation has been stepping into the “noisy intermediate scale quantum” (NISQ) technology era, in which non-error-corrected qubits are used to implement quantum algorithms and quantum simulations. In order to implement superconducting quantum computing, people have developed many superconducting devices, such as superconducting transmon qubit, high-Q superconducting cavity, tunable coupler, Purcell filter, and Josephson parametric amplifier, which play an essential role in the manipulation and readout of superconducting qubit. This area is continuing to expand. More details, please refer to the following link: https://www.mdpi.com/journal/applsci/special_issues/Superconducting_Quantum_Computing

Guest Editor

Prof. Dr. Yang Yu
School of Physics, Nanjing University, Nanjing 210093, China

Deadline for manuscript submissions

closed (31 March 2023)

Applied Sciences

an Open Access Journal by MDPI

Impact Factor 2.5
CiteScore 5.5

mdpi.com/si/99094

Applied Sciences
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
applsci@mdpi.com

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Message from the Editor-in-Chief

As the world of science becomes ever more specialized, researchers may lose themselves in the deep forest of the ever increasing number of subfields being created. This open access journal Applied Sciences has been started to link these subfields, so researchers can cut through the forest and see the surrounding, or quite distant fields and subfields to help develop his/her own research even further with the aid of this multi-dimensional network.

Editor-in-Chief

Prof. Dr. Giulio Nicola Cerullo
Dipartimento di Fisica, Politecnico di Milano, Piazza L. da Vinci 32, 20133 Milano, Italy

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