

Special Issue

Quantum Technologies for Future Internet

Message from the Guest Editor

Quantum computing was proposed in early eighties as a disruptive approach to solve challenging problems in a much faster and efficient way than classical computing can do. Since then, quantum computing has attracted a growing academic interest, and today, research on quantum computing is finally getting out of the labs and seems to be ready to create an impact on the industry. The aims of this Special Issue include: (1) drawing the state-of-the-art of quantum technologies for the future internet in order to forecast the potential socioeconomic impacts; (2) providing a critical analysis of experimental use cases and scenarios, in order to identify challenges, roadblocks, potential services, time-to-market, and business opportunities; and (3) proposing applications and services road-mapping for future internet based on Quantum Technologies.

Guest Editor

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About the Journal

Message from the Editor-in-Chief

We get more and more evidence that quantum theory is the correct description of nature. It was born a century ago by explaining a few paradoxical results that could not be understood in the framework of classical physics. Today, quantum physics leads technological revolution in metrology, communication, computation, and the design of novel materials. Still it needs more solid foundations, and we need to develop a deeper understanding of how it can be used for new applications.

Quantum Reports is an online, open-access journal providing an advanced forum for clarifying foundations of quantum theory and developing its applications in all fields of physics and technology. *Quantum Reports* is inviting innovative and insightful contributions from the growing community of researchers of quantum science.

Editor-in-Chief

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manuscripts are peer-reviewed and a first decision is provided to authors approximately 18.5 days after submission; acceptance to publication is undertaken in 2.9 days (median values for papers published in this journal in the first half of 2025).