Special Issue

The Integration of Quantum Communication and Quantum Sensors

Message from the Guest Editors

Secure communication and precision sensing can be enhanced by integrating quantum communication and quantum sensors. With quantum communication and quantum sensing, functionalities that go beyond classical limits can be achieved through the principles of quantum mechanics. Communication using quantum bits, or qubits, differs from classical communication, which uses classical bits to transmit information. Superposition and entanglement are fundamental principles of quantum mechanics that are crucial to quantum communication security. Quantum sensors measure physical quantities with high precision using the principles of quantum mechanics. To achieve levels of sensitivity and accuracy that are beyond what classical sensors can achieve, they exploit quantum properties, like superposition and entanglement. Quantum sensors have a wide range of applications. This interdisciplinary field of research combining quantum communication with quantum sensors is on the verge of revolutionizing secure communication and precision sensing. For this integration to be fully realized in different practical scenarios, ongoing research and technological advancements are essential.

Guest Editors

Dr. Satyendra Kumar Mishra

Dr. Miguel Ángel Vázquez

Dr. Joan Bas

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

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Editor-in-Chief

Prof. Dr. Nelson Tansu
School of Electrical and Electronic Engineering (EEE), The University of Adelaide, Adelaide, SA 5005, Australia

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