

Special Issue

Continuous Variables for Quantum Key Distribution and Quantum Random Number Generators

Message from the Guest Editors

The focus of this Special Issue is on the use of continuous variables for quantum key distribution and quantum random number generators (QRNGs). These primitives can take advantage of the high-bandwidth modulation and coherent detection systems led by the telecom industry in order to build high-speed CV-QKDs and CV-QRNGs. This is accompanied by an equally important theoretical effort for studying different aspects of the problem, such as the security of discrete modulation systems or the incorporation of some aspects of the implementation into the security proof. Both theoretical and experimental results are welcome in this Special Issue, with the aim of giving the broadest possible overview of this research field.

- continuous variables (CVs)
- quantum key distribution (QKD)
- quantum random number generator (QRNG)
- measurement-device-independent QKD (MDI-QKD)
- quantum cryptography
- coherent detection
- free-space and satellite CV-QKD
- integrated photonics

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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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