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

Guest Editors

Dr. Matteo Schiavon

CNRS, LIP6, Sorbonne Université, 75252 Paris, France

Dr. Marco Avesani

Dipartimento di Ingegneria dell'Informazione, Università degli Studi di Padova, 35131 Padova, Italy

Dr. Cosmo Lupo

Dipartimento di Fisica, Politecnico di Bari, 70126 Bari, Italy

Deadline for manuscript submissions

20 November 2025



an Open Access Journal by MDPI

Impact Factor 2.0 CiteScore 5.2 Indexed in PubMed



mdpi.com/si/198207

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

mdpi.com/journal/ entropy





an Open Access Journal by MDPI

Impact Factor 2.0 CiteScore 5.2 Indexed in PubMed



About the Journal

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.

Entropy is an online open access journal providing an advanced forum for the development and/or application of entropic and information-theoretic studies in a wide variety of applications. Entropy is inviting innovative and insightful contributions. Please consider Entropy as an exceptional home for your manuscript.

Editor-in-Chief

Prof. Dr. Kevin H. Knuth

Department of Physics, University at Albany, 1400 Washington Avenue, Albany, NY 12222, USA

Author Benefits

Open Access:

free for readers, with article processing charges (APC) paid by authors or their institutions.

High Visibility:

indexed within Scopus, SCIE (Web of Science), Inspec, PubMed, PMC, Astrophysics Data System, and other databases.

Journal Rank:

JCR - Q2 (Physics, Multidisciplinary) / CiteScore - Q1 (Mathematical Physics)

