Special Issue

Quantum Entanglement and Its Application in Quantum Communication

Message from the Guest Editor

The aim of this Special Issue is to disseminate the latest advances in the generation, utilization and quantification of quantum entanglement, enabling the communication of quantum information. Experimental quantum technologies are rapidly approaching the performance of ideal theoretical models. We are therefore moving towards an era where interconnected networks of quantum entanglement are a practical reality. This Special Issue is a timely opportunity to present results that will shape the future of quantum communications networks. Topics that this Special Issue will be interested in include theoretical and experimental results in entanglement generation, entanglement distillation, entanglement measures and resource theory, entanglement-based quantum cryptography, the storage of entanglement over long distances, the verification and quantification of quantum entanglement, and protocols for the utilization of quantum entanglement over long distances. Keywords: quantum entanglement; quantum communication; quantum information theory; entanglement measures; entanglement distillation; quantum cryptography; quantum key distribution

Guest Editor

Dr. Austin Lund

1. Dahlem Center for Complex Quantum Systems, Freie Universität Berlin, 14195 Berlin, Germany
2. Centre for Quantum Computation & Communication Technology, School of Mathematics & Physics, The University of Queensland, St. Lucia, QLD 4072, Australia

Deadline for manuscript submissions

closed (20 November 2023)

Entropy

an Open Access Journal by MDPI

Impact Factor 2.0
CiteScore 5.2
Indexed in PubMed

mdpi.com/si/141117

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

mdpi.com/journal/entropy

Entropy

an Open Access Journal by MDPI

Impact Factor 2.0
CiteScore 5.2
Indexed in PubMed

mdpi.com/journal/entropy

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)

MDPI