



entropy



Special Issue Reprint

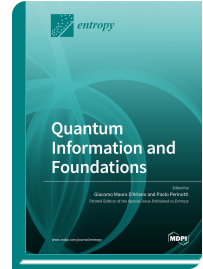
Quantum Information and Foundations

www.mdpi.com/books/reprint/2120

Edited by

Giacomo Mauro D'Ariano

Paolo Perinotti



ISBN 978-3-03928-380-4 (Softback)

ISBN 978-3-03928-381-1 (PDF)

Quantum information has dramatically changed information science and technology, looking at the quantum nature of the information carrier as a resource for building new information protocols, designing radically new communication and computation algorithms, and ultra-sensitive measurements in metrology, with a wealth of applications. From a fundamental perspective, this new discipline has led us to regard quantum theory itself as a special theory of information, and has opened routes for exploring solutions to the tension with general relativity, based, for example, on the holographic principle, on non-causal variations of the theory, or else on the powerful algorithm of the quantum cellular automaton, which has revealed new routes for exploring quantum fields theory, both as a new microscopic mechanism on the fundamental side, and as a tool for efficient physical quantum simulations for practical purposes. In this golden age of foundations, an astonishing number of new ideas, frameworks, and results, spawned by the quantum information theory experience, have revolutionized the way we think about the subject, with a new research community emerging worldwide, including scientists from computer science and mathematics.



Order Your Print Copy

You can order print copies at

www.mdpi.com/books/reprint/2120

MDPI Books offers quality open access book publishing to promote the exchange of ideas and knowledge in a globalized world. MDPI Books encompasses all the benefits of open access – high availability and visibility, as well as wide and rapid dissemination. With MDPI Books, you can complement the digital version of your work with a high quality printed counterpart.



Open Access

Your scholarly work is accessible worldwide without any restrictions. All authors retain the copyright for their work distributed under the terms of the Creative Commons Attribution License.



Author Focus

Authors and editors profit from MDPI's over two decades of experience in open access publishing, our customized personal support throughout the entire publication process, and competitive processing charges as well as unique contributor discounts on book purchases.



High Quality & Rapid Publication

MDPI ensures a thorough review for all published items and provides a fast publication procedure. State-of-the-art research and time-sensitive topics are released with a minimum amount of delay.



High Visibility

Due to our global network and well-known channel partners, we ensure maximum visibility and broad dissemination. Title information of books is sent to international indexing databases and archives, such as the Directory of Open Access Books (DOAB), and the Verzeichnis Lieferbarer Bücher (VLB).



Print on Demand and Multiple Formats

MDPI Books are available for purchase and to read online at any time. Our print-on-demand service offers a sustainable, cost-effective and fast way to publish MDPI Books printed versions.