



Quantum Mechanics and the Challenge of Time

Guest Editors:

Prof. Eli Pollak

Chemical and Biological Physics
Department, Weizmann Institute
of Science, Rehovot 76100, Israel

Prof. Randall S. Dumont

Department of Chemistry and
Chemical Biology, McMaster
University, Hamilton, ON L8S
4M1, Canada

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Message from the Guest Editors

Much progress has been made in the past ten years, both theoretically as well as experimentally, in our understanding of the role of time in quantum mechanics. Yet many questions remain unanswered, such as what is the duration of a quantum transition? Will quantum mechanics speed up or slow down dynamical processes? How does spin symmetry affect transition times? The enigma of energy–time–uncertainty relations has not been fully resolved. Is there a measurable time operator? What is the relation between the time and spatial axes, especially when considering quantum mechanics in the relativistic limit? The purpose of this Special Issue is to provide the reader with new results and a feeling for the role of time in quantum mechanics, a topic which continues to intrigue us all.





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Editor-in-Chief

Prof. Dr. Kevin H. Knuth

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

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.

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Entropy Editorial Office
MDPI, St. Alban-Anlage 66
4052 Basel, Switzerland

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