

Zeitschrift: L'Enseignement Mathématique
Herausgeber: Commission Internationale de l'Enseignement Mathématique
Band: 45 (1999)
Heft: 3-4: L'ENSEIGNEMENT MATHÉMATIQUE

Kapitel: Mécanique quantique

Nutzungsbedingungen

Die ETH-Bibliothek ist die Anbieterin der digitalisierten Zeitschriften. Sie besitzt keine Urheberrechte an den Zeitschriften und ist nicht verantwortlich für deren Inhalte. Die Rechte liegen in der Regel bei den Herausgebern beziehungsweise den externen Rechteinhabern. [Siehe Rechtliche Hinweise.](#)

Conditions d'utilisation

L'ETH Library est le fournisseur des revues numérisées. Elle ne détient aucun droit d'auteur sur les revues et n'est pas responsable de leur contenu. En règle générale, les droits sont détenus par les éditeurs ou les détenteurs de droits externes. [Voir Informations légales.](#)

Terms of use

The ETH Library is the provider of the digitised journals. It does not own any copyrights to the journals and is not responsible for their content. The rights usually lie with the publishers or the external rights holders. [See Legal notice.](#)

Download PDF: 03.01.2025

ETH-Bibliothek Zürich, E-Periodica, <https://www.e-periodica.ch>

waves and asymptotic properties of the waves, time analogs of geometrical optics and quasi optics, and waves in nonstationary media. Finally, the third part (Chapters 9-12) is concerned with nonlinear waves and different forms of their modulation.

Mécanique quantique

David I. OLIVE, Peter C. WEST, (Editors). — **Duality and supersymmetric theories.** — Publications of the Newton Institute. — Un vol. relié, 16×23,5, de vii, 473 p. — ISBN 0-521-64158-6. — Prix: £45.00. — Cambridge University Press, Cambridge, 1999.

This book is the first systematic introduction to electromagnetic duality and its generalizations. The authors are the leading figures in this exciting new area of mathematical physics, and their lectures have been organized not only to link with each other but also to describe the fundamental ideas, the latest developments, and some earlier work whose significance has only recently become apparent. This will be essential reading for all those working in mathematical physics.

Roland OMNÈS. — **Understanding quantum mechanics.** — Un vol. relié, 16,5×24, de xiii, 307 p. — ISBN 0-691-00435-8. — Prix: US\$35.00. — Princeton University Press, Princeton, 1999.

This book presents a more streamlined version of the Copenhagen interpretation, showing its logical consistency and completeness. The problem of measurement is a major area of inquiry, with the author surveying its history from Planck to Heisenberg before describing the consistent-histories interpretation. He draws upon the most recent research on the decoherence effect (related to the modern resolution of the famous Schrödinger's cat problem) and an exact formulation of the correspondence between quantum and particle physics (implying a derivation of classical determinism from quantum probabilism).

Robin TICCIATI. — **Quantum field theory for mathematicians.** — Encyclopedia of mathematics and its applications, vol. 72. — Un vol. relié, 16×24, de xii, 699 p. — ISBN 0-521-63265-X. — Prix: £70.00. — Cambridge University Press, Cambridge, 1999.

The approach to quantum field theory in this book is part way between building a mathematical model of the subject and presenting the mathematics that physicists actually use. It starts with the need to combine special relativity and quantum mechanics and culminates in a basic understanding of the standard model of electroweak and strong interactions. The book is divided into five parts: canonical quantization of scalar fields; Weyl, Dirac and vector fields; functional integral quantization; the standard model of the electroweak and strong interactions; renormalization.

Physique statistique, structure de la matière

Y.M. GUTTMANN. — **The concept of probability in statistical physics.** — Cambridge studies in probability, induction, and decision theory. — Un vol. relié, 16×24, de xi, 267 p. — ISBN 0-521-62128-3. — Prix: £35.00. — Cambridge University Press, Cambridge, 1999.

This book fills an important gap in the literature by providing the most systematic study to date of how to interpret probabilistic assertions in the context of statistical mechanics. The book explores both subjectivist and objectivist accounts of probability, and takes full measure of recent work in the foundations of probability theory in statistical mechanics and mathematical theory. The book will be of particular interest to philosophers of science, physicists, and mathematicians interested in foundational issues, and also to historians of science.