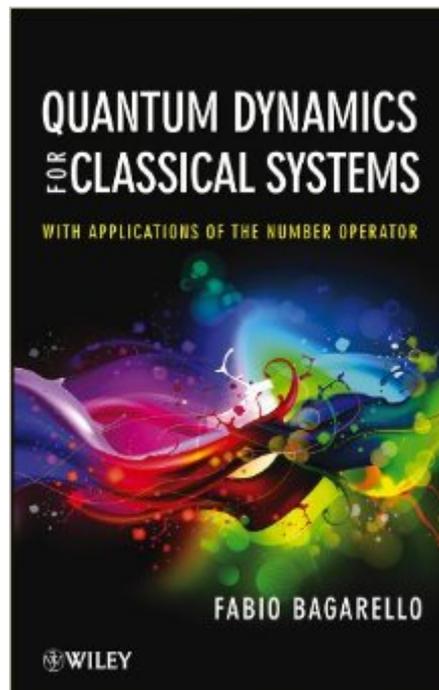# Quantum Dynamics For Classical Systems: With Applications Of The Number Operator

Synopsis

Introduces number operators with a focus on the relationship between quantum mechanics and social science Mathematics is increasingly applied to classical problems in finance, biology, economics, and elsewhere. Quantum Dynamics for Classical Systems describes how quantum toolsâ "the number operator in particularâ "can be used to create dynamical systems in which the variables are operator-valued functions and whose results explain the presented model. The book presents mathematical results and their applications to concrete systems and discusses the methods used, results obtained, and techniques developed for the proofs of the results. The central ideas of number operators are illuminated while avoiding excessive technicalities that are unnecessary for understanding and learning the various mathematical applications. The presented dynamical systems address a variety of contexts and offer clear analyses and explanations of concluded results. Additional features in Quantum Dynamics for Classical Systems include: Applications across diverse fields including stock markets and population migration as well as a unique quantum perspective on these classes of models Illustrations of the use of creation and annihilation operators for classical problems Examples of the recent increase in research and literature on the many applications of quantum tools in applied mathematics Clarification on numerous misunderstandings and misnomers while shedding light on new approaches in the field Quantum Dynamics for Classical Systems is an ideal reference for researchers, professionals, and academics in applied mathematics, economics, physics, biology, and sociology. The book is also excellent for courses in dynamical systems, quantum mechanics, and mathematical models.

Book Information

File Size: 13345 KB

Print Length: 247 pages

Page Numbers Source ISBN: 1118370686

Publisher: Wiley; 1 edition (October 11, 2012)

Publication Date: October 11, 2012

Sold by:Â Digital Services LLC

Language: English

ASIN: B009RKEOIS

Text-to-Speech: Enabled

X-Ray: Not Enabled

Word Wise: Not Enabled

Lending: Not Enabled

Enhanced Typesetting: Enabled

Best Sellers Rank: #1,298,601 Paid in Kindle Store (See Top 100 Paid in Kindle Store)   #66 inÂ Books > Science & Math > Mathematics > Transformations   #224 inÂ Kindle Store > Kindle eBooks > Nonfiction > Science > Physics > Dynamics   #281 inÂ Kindle Store > Kindle eBooks > Nonfiction > Science > Physics > Mathematical Physics

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