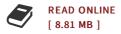




Quantum Transport: Modelling, Analysis and Asymptotics - Lectures Given at the C.I.M.E. Summer School Held in Cetraro, Italy, September 11 16, 2006

By Thomas Y. Hou

Springer. Paperback. Condition: New. 260 pages. Dimensions: 9.2in. x 6.1in. x 0.6in.Downscaling of semiconductor devices, which is now reaching the nanometer scale, makes it mandatory for us to understand the quantum phenomena - volvedinchargetransport. Indeed, fornanoscaled evices, the quantum nature of electrons cannot be neglected. In fact, it underlies the operation of an increasing number of devices. Unlike classical transport, the intuition of the physicistand theen gineer is becoming insucient for predicting the nature of device operation in the quantum contextthe need for suciently accurate and numerically tractable models represents an outstanding challenge in which applied mathematics can play an important role. The CIMES ession Quantum Transport: Modelling, Analysis and Asy-totics, which took place in Cetraro (Cosenza), Italy, from September 11 to September 16, 2006, was intended both to present an overview of up-to-date mathematical problems in this eld and to provide the audience with te-niques borrowed from other elds of application. It was attended by about 50 scientists and researchers, coming from d-ferent countries. The list of participants is included at the end of this book. The school was structured into four courses: Gregoire Allaire (Ecole Polytechnique, Palaiseau, France) Periodic - mogeneization and Eective MassTheorems for the Schrodinger Equation. Anton Arnold (Technische Universitat, Vienna) Mathematical Properties of Quantum Evolution Equations. Pierre Degond (Universit e Paul Sabatier and...



Reviews

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