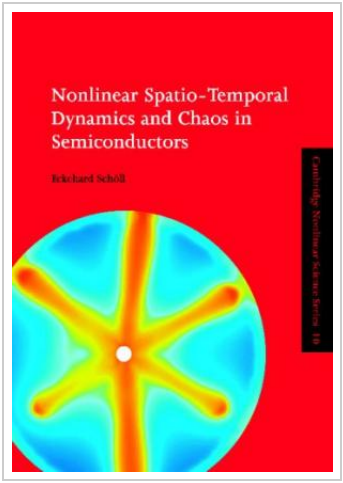

Nonlinear Spatio-Temporal Dynamics and Chaos in Semiconductors (Paperback)

By Eckehard Scholl

CAMBRIDGE UNIVERSITY PRESS, United Kingdom, 2005. Paperback. Condition: New. Revised ed.. Language: English . Brand New Book ***** Print on Demand *****.Nonlinear transport phenomena are an increasingly important aspect of modern semiconductor research. Nonlinear Spatio-Temporal Dynamics and Chaos in Semiconductors deals with complex nonlinear dynamics, pattern formation, and chaotic behaviour in such systems. In doing so it bridges the gap between two well-established fields: the theory of dynamic systems, and nonlinear charge transport in semiconductors. This unified approach is used to consider important electronic transport instabilities. The initial chapters lay a general framework for the theoretical description of nonlinear self-organized spatio-temporal patterns, like current filaments, field domains, fronts, and analysis of their stability. Later chapters consider important model systems in detail: impact ionization induced impurity breakdown, Hall instabilities, superlattices, and low-dimensional structures. State-of-the-art results include chaos control, spatio-temporal chaos, multistability, pattern selection, activator-inhibitor kinetics, and global coupling, linking fundamental issues to electronic device applications. This book will be of great value to semiconductor physicists and nonlinear scientists alike.

Reviews

A must buy book if you need to adding benefit. Of course, it is actually perform, still an interesting and amazing literature. I am delighted to explain how this is basically the best book i actually have read through during my individual life and may be he best book for at any time.

-- ***Jarod Bartoletti***

It is an remarkable pdf that I actually have actually read. It really is packed with knowledge and wisdom I am very happy to tell you that this is the finest ebook i actually have go through during my very own life and may be he very best book for actually.

-- ***Hailey Jast Jr.***