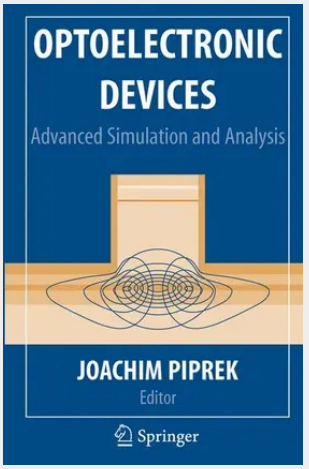
Piprek

Optoelectronic Devices

Advanced Simulation and Analysis



Optoelectronic devices transform electrical signals into optical signals (and vice versa) by utilizing the interaction of electrons and light. Advanced software tools for the design and analysis of such devices have been developed in recent years. However, the large variety of materials, devices, physical mechanisms, and modeling approaches often makes it difficult to select appropriate theoretical models or software packages. This book presents a review of devices and advanced simulation approaches written by leading researchers and software developers. It is intended for scientists and device engineers in optoelectronics who are interested in using advanced software tools. Each chapter includes the theoretical background as well as practical simulation results that help the reader to better understand internal device physics. Real-world devices such as edge-emitting or surface-emitting laser diodes, light-emitting diodes, solar cells, photodetectors, and integrated optoelectroniccircuits are investigated. The software packages described in the book are available to the public, on a commercial or noncommercial basis, so that the interested reader is quickly able to perform similar simulations.

The subject of the book is optoelectronic devices which are semiconductors that employ the interaction of electrons and photons in order to transform electrical into optical signals and vice versa. Each chapter will provide an easy-to-understand introduction to the physics and the main equations, as well as the material parameters essential for realistic simualtions.

320,99 €
299,99 € (zzgl. MwSt.)

Nicht mehr lieferbar

Artikelnummer: 9780387226590
Medium: Buch
ISBN: 978-0-387-22659-0
Verlag: Springer
Erscheinungstermin: 07.12.2004
Sprache(n): Englisch
Auflage: 2005. Auflage 2004
Produktform: Gebunden
Gewicht: 1840 g
Seiten: 452
Format (B x H): 164 x 245 mm