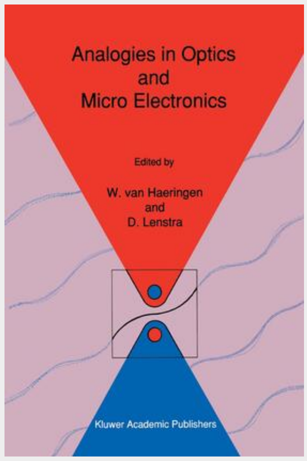
Lenstra / van Haeringen

Analogies in Optics and Micro Electronics

Selected Contributions on Recent Developments



This book gives an account of a number of recent developments in two different subfields of research, optics and micro--electronics. The leading principle in presenting them together in one book is the striking similarity between a variety of notions in these two research areas. We mention in this respect tunneling, quantum interference and localization, which are important concepts in quantummechanics and more specifically in condensed matter physics. Miniaturization in solid state engineering has led to new phenomena in which these concepts play their significant roles. As it is the wave character of electrons which is strongly emphasized in these phenomena one's attention is quite naturally directed to the field of optics in which the above quantum-mechanical notions all seem to have their direct classical wavemechanical counterparts. Both micro--electronics and optics have been and still are in a mode of intensifying activity. The possibilities to technically "translate" devices developed within one research field to similar devices in the other field are strongly increasing. This opens, among other things, a door leading to "quantummechanics" on a macroscopic scale with visible light under relatively easily accessible experimental conditions, or to "wave optics ll in the domain of solid state physics. Thinking in terms of analogies is important anyhow, but it is especially the cross-fertilization between optics and micro--electronics which according to the editors will lead to deepened insights and a new type of technology.

Springer Book Archives

106,99 €
99,99 € (zzgl. MwSt.)

Lieferfrist: bis zu 10 Tage

Artikelnummer: 9789401074001
Medium: Buch
ISBN: 978-94-010-7400-1
Verlag: Springer Netherlands
Erscheinungstermin: 27.09.2011
Sprache(n): Englisch
Auflage: Softcover Nachdruck of the original 1. Auflage 1990
Produktform: Kartoniert
Gewicht: 417 g
Seiten: 262
Format (B x H): 155 x 235 mm