



Extended Defects in Semiconductors: Electronic Properties, Device Effects, and Structures

By D.B. Holt and B.G. Yacobi

Cambridge University Press, Cambridge, UK, 2007. Hardcover. Book Condition: Brand New. Dust Jacket Condition: Brand New. First Edition. The elucidation of the effects of structurally extended defects on electronic properties of materials is especially important in view of the current advances in electronic device development that involve defect control and engineering at the nanometer level. This book surveys the properties, effects, roles and characterization of extended defects in semiconductors. The basic properties of extended defects (dislocations, stacking faults, grain boundaries, and precipitates) are outlined, and their effect on the electronic properties of semiconductors, their role in semiconductor devices, and techniques for their characterization are discussed. These topics are among the central issues in the investigation and applications of semiconductors and in the operation of semiconductor devices. The authors preface their treatment with an introduction to semiconductor materials and conclude with a chapter on point defect maldistributions. This text is suitable for advanced undergraduate and graduate students in materials science and engineering, and for those studying semiconductor physics. A comprehensive survey, in one volume, of extended structural defects in semiconductors Suitable as a reference text for researchers but also as a textbook for graduate students Timely, in view of advances in...



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