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TCAD for Si, SiGe and GaAs integrated circuits

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Abstrak

Technology Computer Aided Design for Si, SiGe and GaAs Integrated Circuits is the first book that deals with a broad spectrum of process and device design, and modelling issues related to various semiconductor devices.

This monograph attempts to bridge the gap between device modelling and process design using TCAD. Many simulation examples for different types of Si-, SiGe-, GaAs- and InP-based heterostructure MOS and bipolar transistors are given and compared with experimental data from state-of-the-art devices. Bringing various aspects of silicon heterostructures into one resource, this book also presents a comprehensive perspective of the emerging field and covers topics ranging from materials to fabrication, devices, modelling and applications.

The monograph is aimed at research and development engineers and scientists who are actively involved in microelectronics technology and device design via Technology CAD. It will also serve as a reference for postgraduate and research students in the field of electrical engineering and solid-state physics and for TCAD engineers and developers.