functionality, including advanced functions and those from all categories, as well as of VBA and its key areas of application within financial modelling. The companion website provides approximately 235 Excel files (screen-clips of most of which are shown in the text), which demonstrate key principles in modelling, as well as providing many examples of the use of Excel functions and VBA macros. These facilitate learning and have a strong emphasis on practical solutions and direct real-world application. For practical instruction, robust technique and clear presentation, Principles of Financial Modelling is the premier guide to real-world financial modelling from the ground up. It provides clear instruction applicable across sectors, settings and countries, and is presented in a well-structured and highly-developed format that is accessible to people with different backgrounds.

Fundamentals of Modern VLSI Devices Yuan Taur 2013-05-02 Learn the basic properties and designs of modern VLSI devices, as well as the factors affecting performance, with this thoroughly updated second edition. The first edition has been widely adopted as a standard textbook in microelectronics in many major US universities and worldwide. The internationally renowned authors highlight the intricate interdependencies and subtle trade-offs between various practically important device parameters, and provide an in-depth discussion of device scaling and scaling limits of CMOS and bipolar devices. Equations and parameters provided are checked continuously against the reality of silicon data, making the book equally useful in practical transistor design and in the classroom. Every chapter has been updated to include the latest developments, such as MOSFET scale length theory, high-field transport model and SiGe-base bipolar devices.

Advanced MOS Device Physics Norman Einspruch 2012-12-02 VLSI Electronics Microstructure Science, Volume 18: Advanced MOS Device Physics explores several device physics topics related to metal oxide semiconductor (MOS) technology. The emphasis is on physical description, modeling, and technological implications rather than on the formal aspects of device theory. Special attention is paid to the reliability physics of small-geometry MOSFETs. Comprised of eight chapters, this volume begins with a general picture of MOS technology development from the device and processing points of view. The critical issue of hot-carrier effects is discussed, along with the device engineering aspects of this problem; the emerging low-temperature MOS technology; and the problem of latchup in scaled MOS circuits. Several device models that are suitable for use in circuit simulators are also described. The last chapter examines novel electron transport effects observed in ultra-small MOS structures. This book should prove useful to semiconductor engineers involved in different aspects of MOS technology development, as well as for researchers in this field and students of the corresponding disciplines.

MOSFET Modeling for Circuit Analysis and Design Carlos Galup-Montoro 2007 This is the first book dedicated to the next generation of MOSFET models. Addressed to circuit designers with an in-depth treatment that appeals to device specialists, the book presents a fresh view of compact modeling, having completely abandoned the regional modeling approach. Both an overview of the basic physics theory required to build compact MOSFET models and a unified treatment of inversion-charge and surface-potential models are provided. The needs of digital, analog and RF designers as regards the availability of simple equations for circuit designs are taken into account. Compact expressions for hand analysis or for automatic synthesis, valid in all operating regions, are presented throughout the book. All the main expressions for computer simulation used in the new generation compact models are derived. Since designers in advanced technologies are increasingly concerned with fluctuations, the modeling of fluctuations is strongly emphasized. A unified approach for both space (matching) and time (noise) fluctuations is introduced.