Sze S M. *Physics of semiconductor devices.* New York: Wiley, 1969. 812 p.
[Bell Telephone Laboratories, Inc., Murray Hill, NJ]

Because of the massive amount of information in the semiconductor-device field, there is a need for a book giving a comprehensive introductory account of device physics and operational principles, with references. The chapters contain 667 references. The book is divided into the following five parts: *semiconductor physics, junction* devices, interface and thin-film devices, optoelectronic devices, and bulk-effect devices. [The *SCI*® indicates that this book has been cited over 2,105 times since 1969.]

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May 12, 1982

"In 1966, I was asked by Bob Ryder to teach an after-hours course on semiconductor devices at Bell Laboratories. I went to the library to search for a textbook which would cover the basic operational principles of various semiconductor devices. To my surprise, there was no such book. All the semiconductor books at that time were concerned with only one device—the bipolar transistor.

"I, therefore, had to do a literature search, and prepared a set of lecture notes for the course. In March 1967, with the encouragement of my colleagues at Bell Laboratories, and George Novotny, an editor at Wiley, I decided to write the book. I first collected about 2,000 technical papers on the subject. These papers were then divided into 12 groups for 12 device chapters. I worked at a very disciplined pace and wrote about one chapter every month.

"It was quite interesting to realize later that the actual writing time was only a small fraction (~10 percent) of the total time required for this project. Over 70 percent of the time was spent on reading, understanding, and selecting technical papers, and another 15-20 percent on organizing the materials and preparing the illustrations. Typically, I needed about 200 hours to finish one chapter. The first draft was completed in April 1968. Each chapter was reviewed by two or more reviewers, and all chapters were edited by Eugene Blair. The final manuscript was submitted to Wiley in August 1968, and the book was published in May 1969. Subsequently, it was translated into Chinese, Italian, Japanese, and Russian.

"The book apparently is highly cited because it is a convenient reference and it includes much useful information on material parameters and device physics. Since 1969, more than 40,000 papers on semiconductor devices have been published with numerous breakthroughs in device concept and performance.[1] The book clearly needed substantial revision if it were to continue to serve its purpose. In 1978, Marty Lepselter and George Smith encouraged me to revise the book. Because of the twentyfold increase in the literature, it took me almost twice as long to revise it as to write the first edition. The second edition, in which 80 percent of the material has been revised or updated,[2] was published in September 1981. I hope that the new edition will be as useful and well received as the first edition."

1. Sze S M. Semiconductor device development in the 1970's and 1980's—a perspective. *Proc. IEEE* 69:1121-31, 1981.
2. ———. *Physics of semiconductor devices.* New York: Wiley, 1981. 868 p.