

There are other significant computational problems of VLSI design not covered in the book. Among these are logic- and register-level models, which are discrete both in space and time. Logic-level models arise by quantizing the current or voltage levels in the circuit-level models into Boolean variables, as well as averaging over the time variable. Register-level models are a further abstraction in which logic elements are grouped into functional units operating on bytes or words of data. Other problems of computational VLSI design are optimization of chip layout and routing of wires, as well as testing of final designs. However, the title of the book indicates that these topics are beyond its scope.

The overall quality of the articles is high, both in terms of historical perspective and technical contribution. This monograph is essential reading for anyone interested in computational simulation of VLSI behavior.

L. R. S.

9[60-06, 65-06, 68-06, 70-06, 80-06, 82-06, 90-06, 92-06, 93-06, 94-06].—
 MATTI HEILIÖ (Editor), *Fifth European Conference on Mathematics in Industry*, European Consortium for Mathematics in Industry, Vol. 7, Kluwer, Dordrecht, 1991, x+400 pp., 24½ cm. Price \$139.00/Dfl.260.00.

This carefully edited volume is the fifth in a series of proceedings of European conferences on industrial mathematics. In format and organization it resembles many SIAM conference proceedings and recent publications of the University of Minnesota's Institute of Mathematics and Its Applications. It contains seven invited presentations and sixty-four contributed presentations. The invited papers average about ten pages, and the contributed about five. In addition, there is a special section, or minisymposium, focusing on problems related to the distribution of electric power.

Such a volume of necessity sacrifices depth for diversity. The diversity of subject matter, both from technological and mathematical vantage points, is far beyond the knowledge base of any given individual. Areas of application include electromagnetic field theory, fluid mechanics, materials science, chemical engineering, design, phase and shape transitions, systems analysis, process simulation, control theory, image processing, robotics, nondestructive testing, signal processing, robotics, image processing, oceanography, and technical education.

The editor emphasizes that there is no fixed body of knowledge, theory, or techniques properly forming an area called "industrial mathematics". They refer to industrial mathematics as an orientation and a process by which the science of mathematics and computation meets the world of technological application. This conference and its proceedings reflect a growing awareness of the importance of this process to the development of sophisticated technology by the scientific community at large.

The present volume should prove to be a valuable resource to mathematically oriented individuals engaged in applications related to research, education, and creative research management.

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