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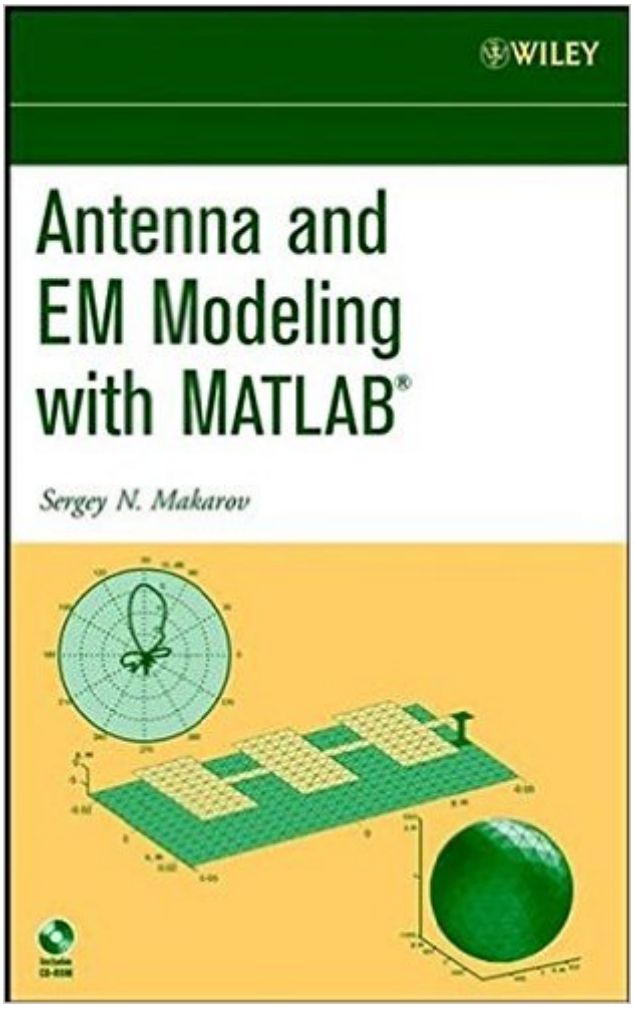
Antenna And EM Modeling With Matlab



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Synopsis

An accessible and practical tool for effective antenna design Due to the rapid development of wireless communications, the modeling of radiation and scattering is becoming more important in the design of antennas. Consequently, it is increasingly important for antenna designers and students of antenna design to have a comprehensive simulation tool. Sergey Makarov's text utilizes the widely used Matlab software, which offers a e flexible and affordable alternative to other antenna and electromagnetic modeling tools currently available. After providing the basic background in electromagnetic theory necessary to utilize the software, the author describes the benefits and many practical uses of the Matlab package. The text demonstrates how Matlab solves basic radiation/scattering antenna problems in structures that range from simple dipoles to patch antennas and patch antenna arrays. Specialized antenna types like fractal antennas and frequency selective surfaces are considered as well. Finally, the text introduces Matlab applications to more advanced problems such as broadband and loaded antennas, UWB pulse antennas, and microstrip antenna arrays. For students and professionals in the field of antenna design, Antenna and EM Modeling with Matlab: Strikes an important balance between text and programming manual Provides numerous examples on how to calculate important antenna/target parameters Provides means for modifying existing codes for various individual projects Includes companion website with Matlab codes and antenna geometry files The present MATLAB codes are only supported by MATLAB 5 and 6 (up to 2004).

Book Information

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Customer Reviews

The book is well written but not very extensive. It points to the applications right from the beggining and it is certainly of great value for students and engineers already engagged with Balanis Book on antenna theory. I strongly recommend Makarov's book for training students with a strong numerical methods background on electromagnetics, as a prerequisite before taking the course.

It is a good book. Covers most types of antennas and arrays. The book deals with the method of moment (MoM) for EM modeling. Most formulas used are referenced to usefull articles and books. It is a good idea to have the ref [1] in chapter 2, as a chapter at beginning of this book.

This is a carefully written book. It could be used as a text as well as a self-help manuscript for the practitioner. Its Matlab code appears to be somewhat version sensitive, though rework is minimal. The Matlab code allows a variety of subroutines to be used in conjunction with the base code. I'm pleased with this new addition to my library and might even use it as a text in my class.Dr. Jim Masi

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