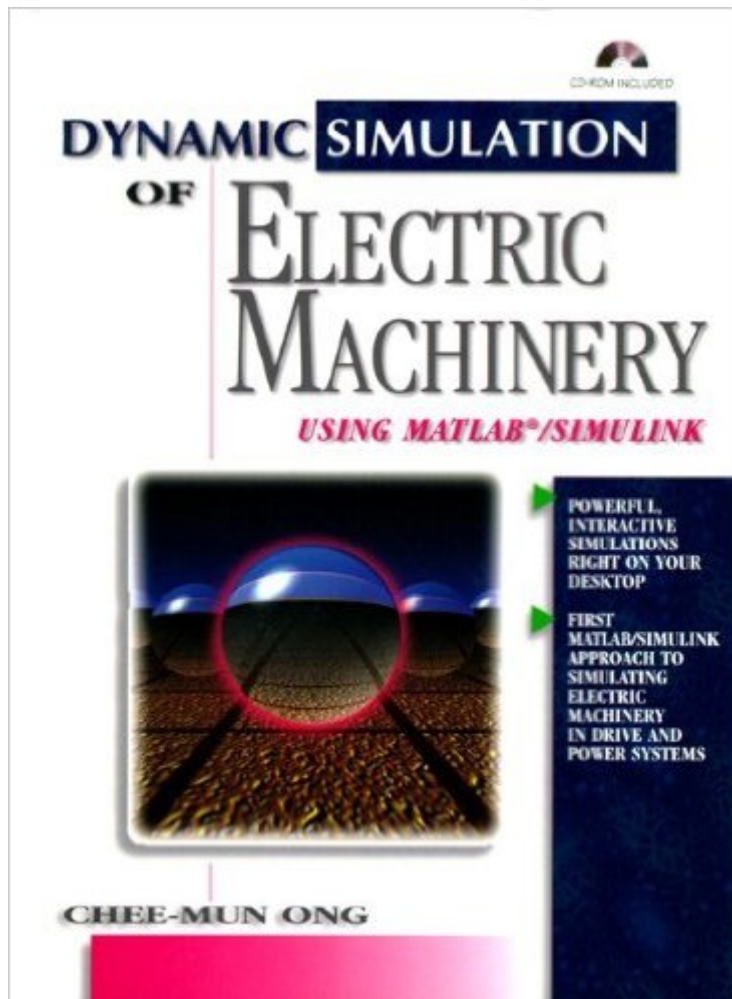


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# Dynamic Simulations Of Electric Machinery: Using MATLAB/SIMULINK



## Synopsis

Electrical engineers can significantly improve the way they design power components and systems using the PC-based modeling and simulation tools discussed in this book. This book covers the fundamentals of electrical system modeling and simulation, using two of the industry's most popular software packages, MATLAB and SIMULINK. It also shows how to interpret the results and use them in the design process. The book reviews the basics of magnetics and line modeling. It covers a wide range of electrical components and systems, including: transformers, electric machines, three-phase induction machines, synchronous machines, and DC machines. This standalone book with an accompanying website (at [www.informit.com/title/0137237855](http://www.informit.com/title/0137237855)) offer a complete treatment from background theory and models to implementation and verification techniques for simulations and linear analysis of frequently studied machine systems. The project files were originally included in a CD that went with the book. With the changeover to "print on demand", the files can be found here:

[https://engineering.purdue.edu/~ong/index\\_right.htm#book](https://engineering.purdue.edu/~ong/index_right.htm#book)

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## Customer Reviews

Teaching the dynamics and transients in electric machines for the Msc students is not easy. Analysis becomes more complex by introducing converters and control. What I found excellent in this book is in introducing many projects of simulation by matlab /simulink at the end of every chapter, which is very helpful for professors and for students to understand the dynamics of DC and

AC electric machines. The author introduces also very well AC and DC speed drives. Another excellent point is that we got the Matlab/Simulink projects on a CD with the book and we can use it in workshop for our students.

Learning for the first time how an electrical machine works is never easy, but how hard it is, depends a lot on the form of teaching. Professor Dr. Chi-Mun Ong has done an excellent work on how firstly to model the basic electrical machines (DC-motor, induction motor and synchronous motor) and secondly how to model the motors in a dynamic system. He describes the method of dq0-transformation of currents, voltages etc. in a nice understandable way and uses one of the best tools for constructing and solving coupled dynamic systems. The tool is of course Matlab/simulink. Matlab/simulink is needed to be able to run the examples from the CDROM, but is not needed to understand the text. I myself might disagree to a degree on how the differential equations themselves are solved and I do not like that he uses a base for the angular speed. There are unfortunately some errors in the development of the model for the induction motor (I have not checked for the synchronous motor), but they are obvious if the text is used as a base to develop your model. This is, I must say, nevertheless a very good book.

Don't despair if you order a copy of this book and it comes without a CD ROM. The Matlab and Simulink Programs can be downloaded from Mathworks Web Site. Just look for this book among the long list of Matlab related books listed on Mathworks' Web Site. There you will find a link enabling you to download the Matlab m files and the Simulink mdl files.

I don't think I'd want to try to teach a class from this book. I'd definitely use some material from this for creating labs in Matlab. I like this book for a reference as a professional. Lots of equations, lots of pictures, lots of functional block diagrams to knit the equations together. However, this book is dedicated to machines, not power systems. Generally for power systems you use a canned model of a generator or motor. This book is helpful for understanding the underlying model, but is not targeted to power SYSTEM simulation. (such as one would do with PSS/E or PowerFactory, or PSCAD). Still I consider it a useful addition to my library when I have to go back and understand the underlying details of the machine. To the guy who gave this one star because he didn't get the disk with the book.... I found the code on the mathworks website and downloaded it (30 seconds elapsed time from the point I said "I know it's out there somewhere...")

I bought the book and when I received it I found out that it is not an original book. It is a good quality photocopy. Some people make a photocopy of books and try to sell it as new books. The original book comes with a CD. On this photocopied book, they did copy the CD icon on the top left corner of the front cover. On the front cover of the original book they mention that there is a CD that comes with the book.

This is a book about how to simulate machines by using Matlab and Simulink. So it is very crucial that the book should contain a CD-ROM, which gives all the codes of the examples and projects illustrated in the book. Otherwise it is impossible to use this book properly. Therefore I specially check this point before I order this book, which it does have a CD-ROM in the appendix B of this book. However when I received the book from, there is no CD-ROM attached to the book which makes it hard for me to use this book. I learned one customer got the same problem before I ordered; but I never thought it would happen again to me. I have contacted to request a CD-ROM for this book. I hope that I can receive the CD-ROM for this book as soon as possible. Thanks

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