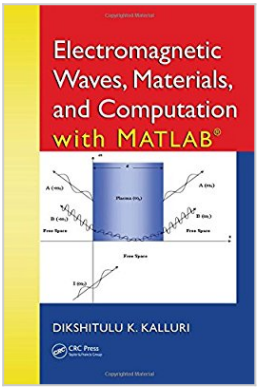

Electromagnetic Waves, Materials, and Computation with MATLAB®

By Dikshitulu K. Kalluri

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Readily available commercial software enables engineers and students to perform routine calculations and design without necessarily having a sufficient conceptual understanding of the anticipated solution. The software is so user-friendly that it usually produces a beautiful colored visualization of that solution, often camouflaging the fact that the program is executing the wrong simulation of the physical problem.

Electromagnetic Waves, Materials, and Computation with MATLAB® takes an integrative modern approach to the subject of electromagnetic analysis by supplementing quintessential "old school" information and methods with instruction in the use of newer commercial software such as MATLAB and methods including FDTD. Delving into the electromagnetics of bounded simple media, equations of complex media, and computation, this text includes:

- Appendices that cover a wide range of associated issues and techniques
- A concluding section containing an array of problems, quizzes, and examinations
- A downloadable component for instructors including PowerPoint™ slides, solutions to problems, and more

Striking a balance between theoretical and practical aspects, internationally recognized expert Dikshitulu Kalluri clearly illustrates how intuitive approximate solutions are derived. Providing case studies and practical examples throughout, he examines the role of commercial software in this process, also covering interpretation of findings. Kalluri’s extensive experience teaching this subject enables him to streamline and convey material in a way that helps readers master conceptual mathematical aspects. This gives them confidence in their ability to use high-level software to write code, but it also ensures that they will never be solely dependent on such programs.

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Review

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About the Author

Internationally recognized expert **Dikshitulu Kalluri** is professor of electrical and computer engineering at the University of Massachusetts-Lowell, where he is coordinator of the doctoral program and co-director of the Center for Electromagnetic Materials and Optical Systems (CEMOS). Dr. Kalluri has collaborated with research groups at the Lawrence Berkeley Laboratory, UCLA, the University of Southern California, and the University of Tennessee. He has also served as a faculty research associate at Air Force Laboratories.

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