Synopsis

Widely acclaimed both in the U.S. and abroad, this reader-friendly yet authoritative volume bridges the gap between circuits and new electromagnetics material. Ulaby begins coverage with transmission lines, leading readers from familiar concepts into more advanced topics and applications. Includes six new sections on Waveguides and Cavity Resonators, replacing the material on geometric optics in Chapter 8. Presents new Technology Briefs on relevant topics, connecting concepts in the book to everyday applications found in real life, such as liquid crystal displays, the laser, GPS, and x-ray tomography. Includes an interactive CD-ROM that allows readers to gain physical intuition about electromagnetics. A useful reference for engineers.

Book Information

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Customer Reviews

Electromagnetics book The lightest textbook in my backpack, but certainly not the emptiest. This high information-density volume contains a wealth of knowledge, examples, and fairly readable text about the subject - and the CD is actually helpful! At the beginning of the semester I had no idea what material the electromagnetics class consisted of, but now at the end I can look back and see a large number of topics presented in a fairly logical progression. The book's modus operandi is: teach/review the underlying math concept, then use that math to tackle an electromagnetics problem. I enjoyed this approach a lot, though I agree with my professor that the order of presentation is a little questionable. We shuffled between chapters 3 and 4 so as not to dwell on pure math as much and instead deal with physical, practical problems. For example, instead of
learning both divergence and curl simultaneously, we first learned divergence and then used it solve some problems involving Electric fields. Then we went back, learned curl, and applied it to different problems. I was overwhelmed with the sheer variety of topics covered in this course. There seemed to be too many ways to do problems, and I couldn’t get a good feel for when to use which method. The book’s examples and explanations helped for homework sets, but come test time I usually knew three ways to solve it but wasn’t sure which way would produce the proper result. In an hour testing situation, I don’t have time to try out all three ways on every problem! There must be a way to teach these concepts in a more targeted method, but I don’t know how. I feel I have a good knowledge of the material from the book, though, and the CD’s examples were very good.

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