

Short Bibliography

Electromagnetic Theory

- J. D. Jackson, *Classical Electrodynamics*, 2nd ed., Wiley: New York, 1975. Standard reference work on electrodynamics, written primarily for physicists, using Gaussian units and $e^{-i\omega t}$ time dependence. Masochistic problem sets.
- J. A. Stratton, *Electromagnetic Theory*, McGraw-Hill: New York, 1941. Available thought McGraw-Hill Classic re-issue. An older but still valid and beautifully written physics book, uses mks units but $e^{-i\omega t}$ throughout.
- J. A. Kong, *Electromagnetic Wave Theory*, 2nd ed., Wiley Interscience: New York, 1990. An eclectic treatment, with a nice collection of problems. Written mostly for EEs, but strangely uses $e^{-i\omega t}$ throughout(?)
- R. E. Collin, *Field Theory of Guided Waves*, McGraw-Hill Book Company, New York, 1960. Excellent chapter on Green's functions. IEEE Press has issued a new edition recently, but as far as I can tell it is identical with the old.
- M. Schwartz, *Principles of Electrodynamics*, McGraw-Hill Book Company, New York, 1972. Now in Dover reprint. A physics-oriented book, very readable section on relativity.
- L. Eyges, *The Classical Electromagnetic Field*, Addison-Wesley, New York, 1972. My favorite EM book, and a less intimidating version of Jackson. Now in Dover reprint.
- R. F. Harrington, *Time-Harmonic Electromagnetic Fields*, McGraw-Hill, New York, 1961. Good chapters on theorems and concepts, variational methods, and microwave networks. A great book, were it not for terse explanations.
- Feynman, *The Feynman Lectures on Physics*. If you are serious about the subject, read Volume II cover to cover at least twice.

Applied EM (RF and Microwave)

- R.E. Collin, *Foundations for Microwave Engineering*, 2nd ed., McGraw Hill: New York, 1992. Great stuff covering basic circuit concepts and associated EM foundation through classical EM structures and active circuits.
- D.M. Pozar, *Microwave Engineering*, Addison-Wesley: Reading, Mass., 1990. Modern version of the above, well written.

Waveguides

- N. Marcuvitz, *Waveguide Handbook*, McGraw-Hill: New York, 1951. Reprinted in 1986 by Peter Peregrinus: London. The standard reference from WWII era on classical waveguide discontinuities and junctions.
- R. Hoffman, *Handbook for Microwave Integrated Circuits*, Artech House: Dedham, Mass, 1990. Good reference for most planar transmission lines.
- D. Marcuse, *Theory of Dielectric Waveguides*, 2nd ed., Academic Press: New York, 1991. The standard reference on dielectric waveguides.

Antenna Theory and Diffraction

- R. Elliott, *Antenna theory and Design*. Probably the best antenna book written so far, but it is currently out of print.
- R. E. Collin, *Antennas and Radiowave Propagation*, McGraw-Hill: New York, 1985. Concise coverage of both antennas and propagation; a good reference book, though not complete.
- C. A. Balanis, *Antenna Theory: Analysis and Design*, Harper & Row: New York, 1982. Currently the default textbook since Elliott is out of print, but not one of my favorites.

Computational Electromagnetics

- T. Itoh, ed., *Numerical Techniques for Microwave and Millimeter-wave Passive Structures*, Wiley Interscience: New York, 1989. An excellent book describing the most important techniques, written for professionals.
- M. N. O. Sadiku, *Numerical Techniques in Electromagnetics*, CRC Press: Boca Raton, 1992. A nice introductory book, written for students.
- R. Leubbers, *The Finite-Difference Time-Domain Method in Electromagnetics*, CRC Press: Boca Raton, 1994.
- Press *et al.*, *Numerical Recipes*, Cambridge University Press, New York, 1989. Should be on every graduate students desk.