

Reading List

In addition to the required text book this is a list of additional text books that are useful references and will be on reserve in the Physics, Optics and Astronomy Library. The two most popular systems of units used in electrodynamics are the Gaussian CGS system (C = Coulomb, G = gram, and S = second) and the MKS system (M = meter, K = kilogram, and S = second). Our text book uses the MKS system. Some of the suggested references use the CGS system. Information about converting from CGS units to MKS units, or vice-versa can be found in Appendix C of Griffiths and in Jackson.

R. K. Wangsness, *Electromagnetic Fields* (second edition, 1986). This book is very similar in approach, content and style to Griffiths' book. Has many good examples and uses MKS units.

M. H. Nayfeh and M. K. Brussel, *Electricity and Magnetism* (1985). Their discussions of the principles of electrodynamics are very brief and dry. However, they include a very large number of examples on every topic, including many not found in Griffiths and Wangsness. Uses MKS units.

J. D. Jackson, *Classical Electrodynamics* (second edition, 1975). This book is the classic text in electrodynamics. It is very well written. The parts on relativity and the interaction of radiation with matter will be especially useful. It uses CGS units, but an appendix tells you all you need to know about unit conversions.

E. M. Purcell, *Electricity and Magnetism*, (second edition, 1985). This book will serve as a supplementary text throughout this course. It is eminently readable, and has all the physics of the mathematically-advanced texts, presented succinctly and beautifully. It uses CGS units.

R. P. Feynman, R. B. Leighton, and M. Sands, *The Feynman Lectures on Physics, Volumes 1 and 2* (1963). These books are full of terrific insights into electrodynamics, as well as other basic branches of physics, and are worth reading at every stage of your physics education.