

Mathematical Physics

MP465: Electromagnetism

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Textbooks:

1. Reitz and Milford: Foundations of Electromagnetic Theory
2. Griffiths: Introduction to electrodynamics
3. Lorrain and Corson: Electromagnetic fields and waves
4. Landau and Lifschitz: Electrodynamics of Continuous Media
5. Feynman, Leighton and Sands: The Feynman lectures on physics, vol. 2
(good for intuitive explanations)
6. Jackson: Classical Electrodynamics (advanced but complete)

Topics:

1. Summary of Maxwell's equations
2. Electrostatics
3. Magnetostatics
4. Maxwell's equations in matter
5. Plane waves and radiation from simple systems
6. Relativistic formulation