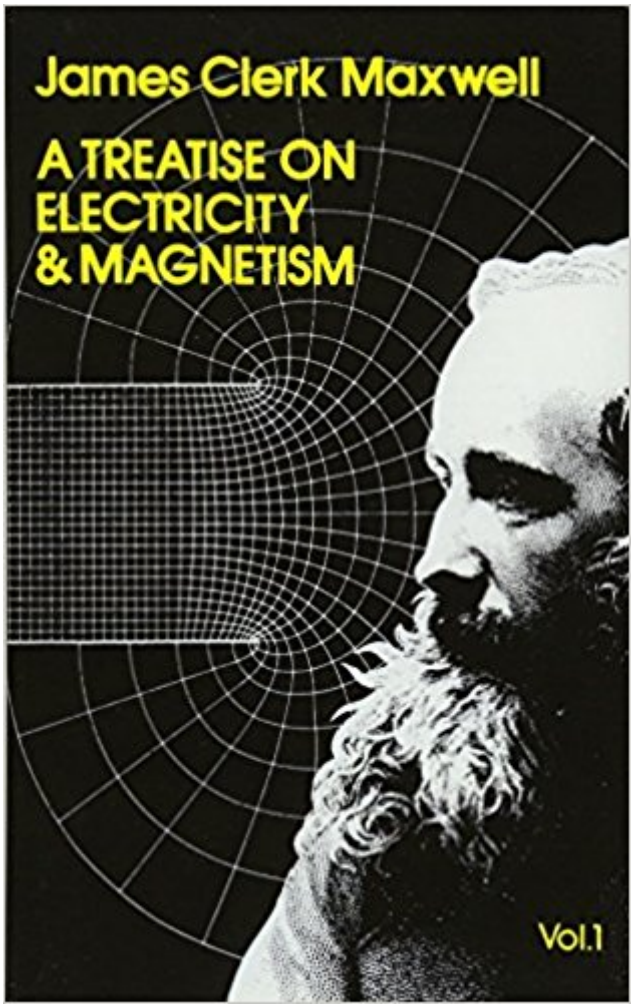
Treatise On Electricity And Magnetism, Vol. 1



Synopsis

"Maxwell is without peer. This printing is an opportunity to become thoroughly acquainted with the thoughts of the greatest of our electrical scientists." Ã¢â ¬â • School Science and MathHere is the final elaboration of Maxwell's theory of electromagnetism, including the systematic and rigorous derivation of his general equations of field theory. These equations continue to occupy a central position in the modern physicist's view of the physical world. They are a magnificent summary of the fundamental advances in electricity and magnetism, and later inspired the theories of Lorentz on the electron and Einstein on relativity. Einstein himself has said that "The formulation of these equations is the most important event in physics since Newton's time." (The Evolution of Physics.)Volume 1, Part 1, "Electrostatics," describes electrostatic phenomena and develops a mathematical theory of electricity. Maxwell discusses electrical work and energy in a system of conductors, mechanical action between two electrical systems, forms of equipotential surfaces and line of flow, spherical harmonics, the theory of electric images, and other topics. Part II, "Electrokinematics," deals with electric current conduction and resistance, electromotive force between bodies in contact, electrolysis, the mathematical theory of the distribution of electric currents, and other topics.

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Customer Reviews

"If your library does not have copies of the original editions, you should certainly ask them to consider getting these...and you may want one or two for yourself!" MAA Online, April 1999

"Maxwell is without peer. This printing is an opportunity to become thoroughly acquainted with the thoughts of the greatest of our electrical scientists."Ã¢â ¬â •School Science and MathHere is the final elaboration of Maxwell's theory of electromagnetism, including the systematic and rigorous derivation of his general equations of field theory. These equations continue to occupy a central position in the modern physicist's view of the physical world. They are a magnificent summary of the fundamental advances in electricity and magnetism, and later inspired the theories of Lorentz on the electron and Einstein on relativity. Einstein himself has said that "The formulation of these equations is the most important event in physics since Newton's time." (The Evolution of Physics.)Volume 1, Part 1, "Electrostatics," describes electrostatic phenomena and develops a mathematical theory of electricity. Maxwell discusses electrical work and energy in a system of conductors, mechanical action between two electrical systems, forms of equipotential surfaces and line of flow, spherical harmonics, the theory of electric images, and other topics. Part II, "Electrokinematics," deals with electric current conduction and resistance, electromotive force between bodies in contact, electrolysis, the mathematical theory of the distribution of electric currents, and other topics.

I have to admit I haven't read this book; I bought it because Maxwell's equations represent one of the great advance in Physics, i.e. the integration of electricity and magnetism into a single theory. I have read that many physicists didn't understand the work when it was first published. Anyone who is serious about reading this book might want to purchase "A Student's Guide to Maxwell's Equations" by Daniel Fleisch

Kind of add questions for this review - If you're looking for an explanation of the connection between Electricity and Magnetism (the equations and science involved) - this book is for you.

This book is a must read if you want to know how electrodynamics theory developed historically - Everything is treated rigorously and in great detail. Also dealt in detail are how electromagnetic quantities are measured, how the instruments developed and their theories of operation.

There are some books that even when they are reprinted editions, the font looks ugly. I liked this version of the treatise on electricity and magnetism, It has a nice font and nice drawings and pictures.

See my rating and commentary on the first volume. The original engineering sourcebook. You need a year of calculus first but reading through still provides original insights on how mathemations of the time contributed to all fields of engineering as discussed by Maxwell.

I gave my husband this book for xmas as it was on his list and he was really surprised and happy to get it. He hasn't read it yet but has skimmed through and likes what he's seen so far.

it's a interesting read if your mind works this way. language is 19 th century style. takes more concentration than modern literature.

This is the basis of electrical theory - his physics was rejected but his equations kept