



The Quantum Theory of Fields, Volume 1: Foundations

By Steven Weinberg

[Download now](#)

[Read Online](#) 

The Quantum Theory of Fields, Volume 1: Foundations By Steven Weinberg

In *The Quantum Theory of Fields*, Nobel Laureate Steven Weinberg combines his exceptional physical insight with his gift for clear exposition to provide a self-contained, comprehensive, and up-to-date introduction to quantum field theory. This is a two-volume work. Volume I introduces the foundations of quantum field theory. The development is fresh and logical throughout, with each step carefully motivated by what has gone before, and emphasizing the reasons why such a theory should describe nature. After a brief historical outline, the book begins anew with the principles about which we are most certain, relativity and quantum mechanics, and the properties of particles that follow from these principles. Quantum field theory emerges from this as a natural consequence. The author presents the classic calculations of quantum electrodynamics in a thoroughly modern way, showing the use of path integrals and dimensional regularization. His account of renormalization theory reflects the changes in our view of quantum field theory since the advent of effective field theories. The book's scope extends beyond quantum electrodynamics to elementary particle physics, and nuclear physics. It contains much original material, and is peppered with examples and insights drawn from the author's experience as a leader of elementary particle research. Problems are included at the end of each chapter. This work will be an invaluable reference for all physicists and mathematicians who use quantum field theory, and it is also appropriate as a textbook for graduate students in this area.

 [Download The Quantum Theory of Fields, Volume 1: Foundation ...pdf](#)

 [Read Online The Quantum Theory of Fields, Volume 1: Foundati ...pdf](#)

The Quantum Theory of Fields, Volume 1: Foundations

By Steven Weinberg

The Quantum Theory of Fields, Volume 1: Foundations By Steven Weinberg

In *The Quantum Theory of Fields*, Nobel Laureate Steven Weinberg combines his exceptional physical insight with his gift for clear exposition to provide a self-contained, comprehensive, and up-to-date introduction to quantum field theory. This is a two-volume work. Volume I introduces the foundations of quantum field theory. The development is fresh and logical throughout, with each step carefully motivated by what has gone before, and emphasizing the reasons why such a theory should describe nature. After a brief historical outline, the book begins anew with the principles about which we are most certain, relativity and quantum mechanics, and the properties of particles that follow from these principles. Quantum field theory emerges from this as a natural consequence. The author presents the classic calculations of quantum electrodynamics in a thoroughly modern way, showing the use of path integrals and dimensional regularization. His account of renormalization theory reflects the changes in our view of quantum field theory since the advent of effective field theories. The book's scope extends beyond quantum electrodynamics to elementary particle physics, and nuclear physics. It contains much original material, and is peppered with examples and insights drawn from the author's experience as a leader of elementary particle research. Problems are included at the end of each chapter. This work will be an invaluable reference for all physicists and mathematicians who use quantum field theory, and it is also appropriate as a textbook for graduate students in this area.

The Quantum Theory of Fields, Volume 1: Foundations By Steven Weinberg Bibliography

- Sales Rank: #684701 in Books
- Brand: Brand: Cambridge University Press
- Published on: 2005-05-09
- Original language: English
- Number of items: 1
- Dimensions: 9.96" h x 1.30" w x 6.97" l, 2.45 pounds
- Binding: Paperback
- 609 pages



[Download The Quantum Theory of Fields, Volume 1: Foundation ...pdf](#)



[Read Online The Quantum Theory of Fields, Volume 1: Foundati ...pdf](#)

Download and Read Free Online The Quantum Theory of Fields, Volume 1: Foundations By Steven Weinberg

Editorial Review

Review

"The [physics] community will not be disappointed....Volume 1 is six hundred pages of meticulous exposition of the fundamentals of the subject....In addition to a superb treatment of all the conventional topics there are numerous sections covering areas that are not normally emphasized, such as the subject of field redefinitions, higher-rank tensor fields and an unusually clear and thorough treatment of infrared effects....This latest book reinforces [Weinberg's] high scholarly standards. It provides a unique exposition that will prove invaluable both to new research students as well as to experienced research workers....this will become a classic text on a subject of central importance to a wide area of theoretical physics." Michael B. Green, CERN Courier

"...for over 20 years there has been no good modern textbook on [quantum field theory]. For all that time, Steven Weinberg has been promising to write one. That he has finally done it...is cause for celebration among those who try to teach and try to learn the subject. Weinberg's book is for serious students of field theory....[I]t is the first textbook to treat quantum field theory the way it is used by physicists today." Howard Georgi, Science

"...provides an impressively lucid and thorough presentation of the subject from this modern viewpoint....Weinberg manages to present difficult topics with richness of meaning and marvellous clarity. Full of valuable insights, his treatise is sure to become a classic..." Nature

"...a self-contained, comprehensive introduction to quantum field theory." Book News, Inc.

"...beautifully produced and meticulously edited...and it is a real bargain in price. If you want to learn quantum field theory, or have already learned it and want to have a definitive reference at hand, purchase this book." O.W. Greenberg, Physics Today

"I would recommend it to students who have completed a first course in field theory and hope that many of my colleagues will read it as well. Weinberg leads us to a frontier rich in possibilities. This is an optimistic book, written with much respect for ideas and nature--and for tools." Chris Quigg, Science

About the Author

Steven Weinberg is Josey Regental Professor of Science at the University of Texas. His research has been honored with numerous prizes and awards, including in 1979 the Nobel Prize in Physics and in 1991 the National Medal of Science, as well as the Heinemann Prize in Mathematical Physics and the Madison Medal of Princeton University. He has been elected to the US National Academy of Sciences, the Royal Society of Great Britain, the American Philosophical Society, and the American Academy of Arts and Sciences.

Users Review

From reader reviews:

Carlos Vickers:

Why don't make it to become your habit? Right now, try to ready your time to do the important work, like

looking for your favorite e-book and reading a publication. Beside you can solve your short lived problem; you can add your knowledge by the e-book entitled The Quantum Theory of Fields, Volume 1: Foundations. Try to make the book The Quantum Theory of Fields, Volume 1: Foundations as your pal. It means that it can to become your friend when you experience alone and beside that of course make you smarter than ever before. Yeah, it is very fortuned in your case. The book makes you a lot more confidence because you can know almost everything by the book. So , let's make new experience and also knowledge with this book.

Robert Eslinger:

Information is provisions for people to get better life, information presently can get by anyone at everywhere. The information can be a know-how or any news even a huge concern. What people must be consider while those information which is within the former life are difficult to be find than now could be taking seriously which one is appropriate to believe or which one the resource are convinced. If you find the unstable resource then you understand it as your main information you will see huge disadvantage for you. All those possibilities will not happen inside you if you take The Quantum Theory of Fields, Volume 1: Foundations as the daily resource information.

Gregory Polster:

This The Quantum Theory of Fields, Volume 1: Foundations is great guide for you because the content that is certainly full of information for you who always deal with world and get to make decision every minute. This kind of book reveal it information accurately using great arrange word or we can state no rambling sentences inside. So if you are read that hurriedly you can have whole data in it. Doesn't mean it only gives you straight forward sentences but challenging core information with splendid delivering sentences. Having The Quantum Theory of Fields, Volume 1: Foundations in your hand like obtaining the world in your arm, information in it is not ridiculous one. We can say that no publication that offer you world throughout ten or fifteen small right but this publication already do that. So , this is certainly good reading book. Hello Mr. and Mrs. stressful do you still doubt that?

Everett Barton:

The book untitled The Quantum Theory of Fields, Volume 1: Foundations contain a lot of information on that. The writer explains your girlfriend idea with easy method. The language is very straightforward all the people, so do not really worry, you can easy to read that. The book was published by famous author. The author provides you in the new era of literary works. It is easy to read this book because you can continue reading your smart phone, or model, so you can read the book in anywhere and anytime. If you want to buy the e-book, you can open up their official web-site and also order it. Have a nice examine.

Download and Read Online The Quantum Theory of Fields, Volume 1: Foundations By Steven Weinberg #0LNS5D4WQYK

Read The Quantum Theory of Fields, Volume 1: Foundations By Steven Weinberg for online ebook

The Quantum Theory of Fields, Volume 1: Foundations By Steven Weinberg Free PDF d0wnl0ad, audio books, books to read, good books to read, cheap books, good books, online books, books online, book reviews epub, read books online, books to read online, online library, greatbooks to read, PDF best books to read, top books to read The Quantum Theory of Fields, Volume 1: Foundations By Steven Weinberg books to read online.

Online The Quantum Theory of Fields, Volume 1: Foundations By Steven Weinberg ebook PDF download

The Quantum Theory of Fields, Volume 1: Foundations By Steven Weinberg Doc

The Quantum Theory of Fields, Volume 1: Foundations By Steven Weinberg MobiPocket

The Quantum Theory of Fields, Volume 1: Foundations By Steven Weinberg EPub

0LN5D4WQYK: The Quantum Theory of Fields, Volume 1: Foundations By Steven Weinberg