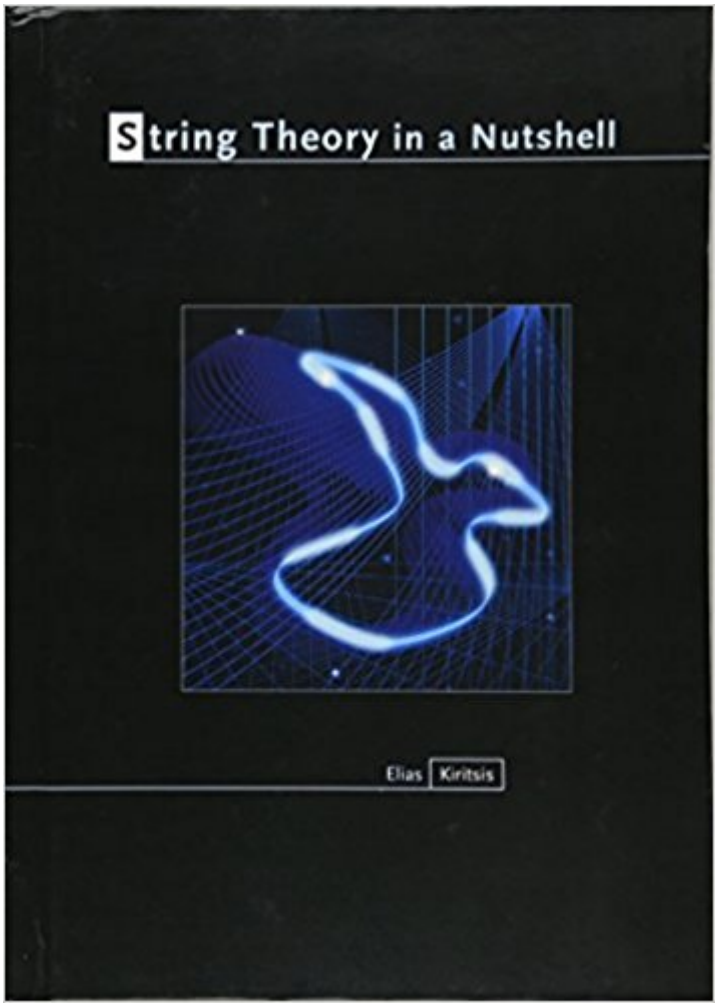
String Theory In A Nutshell



Synopsis

This book is the essential new introduction to modern string theory, by one of the world's authorities on the subject. Concise, clearly presented, and up-to-date, String Theory in a Nutshell brings together the best understood and most important aspects of a theory that has been evolving since the early 1980s. A core model of physics that substitutes one-dimensional extended "strings" for zero-dimensional point-like particles (as in quantum field theory), string theory has been the leading candidate for a theory that would successfully unify all fundamental forces of nature, including gravity. Starting with the basic definitions of the theory, Elias Kiritsis guides readers through classic and modern topics. In particular, he treats perturbative string theory and its Conformal Field Theory (CFT) tools in detail while also developing nonperturbative aspects and exploring the unity of string interactions. He presents recent topics including black holes, their microscopic entropy, and the AdS/CFT correspondence. He also describes matrix model tools for string theory. In all, the book contains nearly five hundred exercises for the graduate-level student, and works as a self-contained and detailed guide to the literature. String Theory in a Nutshell is the staple one-volume reference on the subject not only for students and researchers of theoretical high-energy physics, but also for mathematicians and physicists specializing in theoretical cosmology and QCD.

Book Information

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Customer Reviews

"What sets this book apart from other recent and older texts on string theory is that, while providing the level of detail in the derivation of all central results that is necessary for an introductory textbook, Kiritsis maintains a brisk and steady pace, and also includes a colloquial discussion of new

concepts at the beginning of every section."--Johannes Walcher, Mathematical Reviews

"An excellent reference for any graduate student interested in string theory. Kiritsis succinctly describes many of the recent developments that are necessary background to current research. Topics covered include black holes in string theory, holography, various dualities among string theories, and dualities connecting string theory to gauge theories. The basic frameworks for connecting string theory to four-dimensional physics are also explained."--Juan Maldacena, Institute for Advanced Study"This very well-written book, which builds on the fundamentals and provides an excellent introduction to the state of the art in string theory, will be quite useful to students and to researchers acquainting themselves with this exciting field. It concisely lays out the successes of string theory to date and the challenges that await. I have no doubt that the topics described herein will remain at the heart of the theory even when our understanding of its dynamics and its role in describing nature improve."--David Kutasov, University of Chicago"There is a definite need for a short speedy introduction to modern string theory. Kiritsis beautifully fills this gap--including all essential areas, but remaining relatively concise, so that a beginning student can work through the entire text."--Andrew Strominger, Harvard University"String theory textbooks are found on the bookshelves of not only those theoretical physicists who call themselves string theorists, but also others, and this book will appeal especially to this broader category of readers. More universal in its coverage than are comparable texts, it seeks to explain virtually all the issues whose knowledge becomes more or less necessary for every researcher in the field. Indeed, it squeezes all its material into less than 600 pages of well-defined, short sentences with a clear technical content--a nearly complete discussion of the subject that will be really useful to many experts and future experts."--LuboÅ¡ Motl, Harvard University

I have mixed feelings about this book. Let me start off by saying that despite the title of the book, this book is NOT written in the style of "Quantum Field Theory in a Nutshell", which is the masterpiece by A. Zee. I eagerly awaited the release of String Theory in a Nutshell thinking finally here is a string theory book mere mortals can understand. Unfortunatly, the presentation is quite a bit more rigorous and terse than QFT in a Nutshell, so I don’t think it lives up to its name. In fact if I hadn’t been reading other string theory books at the same time, I would have found this book incredibly terse and hard to get through. Results are simply stated without any how or why behind them. This is in complete contrast to Becker, Becker & Schwarz say, where they have detailed calculations laid out for you.OK that all sounds negative. The other side of my review is that if you

have had some exposure to string theory, the book is fairly well written. So what's my conclusion? If you're looking to learn string theory for the first time, which this book seems to claim to be able to do by the name of it, you're going to be really disappointed. Like I said above this ain't A. Zee's book (which is an example of what a book in this series should look like). On the other hand, if you're looking for a reference to keep on your shelf, its good to have.

The best book by far covering the most important topics in modern string theory at the postgraduate level. All topics are presented thoroughly and the student/researcher can find details not found in the original papers. Kiritsis is an expert at stressing the important issues which helps the reader navigate in this very difficult and sometimes confusing subject. Many interesting exercises and an extensive list of references guides the reader through the vast literature. I have used it for many years and it seems that it will be helpful to me for many more to come... A great investment!

Great

I have read several of the, made for the public books on string theory. I have solved my share of triple integral dot products. I thought with Mathematica by my side I could maybe I could delve further, After all I did solve the particle in a box equations in college. The titles of the chapters make some sense, then you start reading. I got lost quickly, but was left with a deeper sense of admiration for those that spend their whole lives trying to figure out the force required to move a massless membrane. Their heads must be screwed up, thankfully.

So i have to admit one thing: i was lucky enough to go to kiritsis's lectures at ENS where he handed out some prepublication versions of this book but i havent read the final version.That said, his lectures were infinitely more clear to me than my attempts at digesting polchinski which i always found took time enough to try my patience. I found the calculations here detailed enough to follow, and i find that research papers suddenly made sense after reading his stuff. The level is similar to that of D-branes by johnson.

it is very fast delivery. awesome and very well. Great product! Cuts vegetables like butter. very good . send it to my grandson,

I've been trying to learn from this book and it is not easy. Terminology is introduced without any

explanation and notation is at times unclear with occasional errors and inconsistencies. Facts are frequently stated without justification and then used "prove" other things. This book assumes extensive knowledge of GR, QFT, Group Theory, Particle Phenomenology and at least introductory knowledge of String Theory.

Very disappointed in this book. I breezed thru Zwiebach, & mistakenly thought this was the next level up.Try Two-Three levels up. IMO, it presumes knowledge of things like `einbeins', Chpt.2, yet introduces them withoutany explanation, prior to using them as a critical element in the analysis that follows. Unacceptable.I have found other einbein-like entries, which promptly turned me off, & I am closing the book on this nutshell.For what its worth, check out the competition by Ibanez & Uranga. This is ideal advanced string pedagogy,& I wish I'd found it earlier.