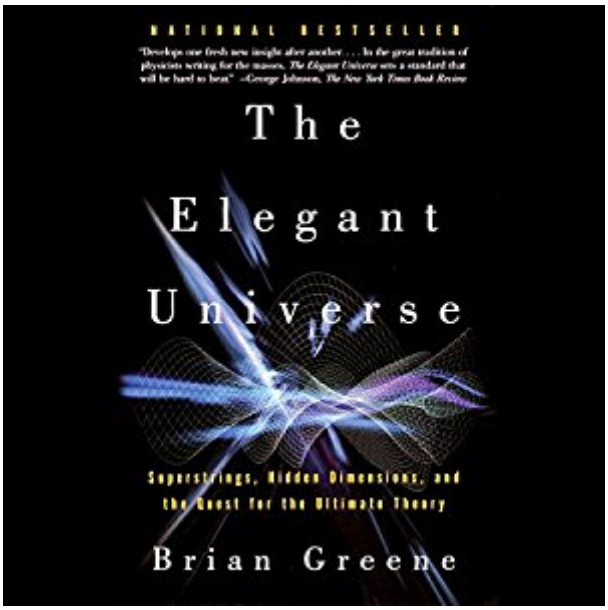
The Elegant Universe: Superstrings, Hidden Dimensions, And The Quest For The Ultimate Theory



Synopsis

Physicists and mathematicians throughout the world are working on one of the most ambitious theories ever proposed: superstring theory. String theory, as it is often called, is the key to the Unified Field Theory that eluded Einstein for more than 30 years. Finally, the century-old antagonism between the large and the small - General Relativity and Quantum Theory - is resolved. String theory proclaims that all of the wondrous happenings in the universe, from the frantic dancing of of subatomic quarks to the swirling of galaxies, are reflections of one grand physical principle and manifestations of one single entity: microscopically tiny vibrating loops of energy, a billionth of a billionth the size of an atom. In this work, Brian Greene relates the scientific story and the human struggle behind 20th-century physics' search for a theory of everything. Through the use of metaphor and analogy, this work makes some of the most sophisticated concepts accessible, aiming to bring the reader closer to an understanding of how the universe works. --This text refers to an out of print or unavailable edition of this title.

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Customer Reviews

This book is recommended for any reader who is interested in the application of string theory to cosmology.The first few chapters cover special relativity, general relativity, and quantum mechanics. The author must be commended for his vivid account of the scientific exploration in these important areas over the past century. His remarkably clear explanation, in terms that a lay reader should be able to follow without difficulty, makes it fun to read.Nevertheless, reading becomes rather more

difficult as the author goes into string theory and its applications in cosmology. Even as an accomplished string theorist, it must be very difficult for the author to explain in lay terms a relatively new theory in physics that involves complex mathematics (in topology and other areas). And to try to explain the intricacies of the theory without actually going into the mathematics involved makes the task doubly difficult. A lay reader's difficulty with the detailed account may also reflect the state of play of string theory, which has yet to receive the thorough study given to relativity and quantum mechanics over the course of the past century.

It takes some good visualization abilities on the part of the reader, but the author does manage to give good insight into some very complex topics without math. Background math and other technical details are in end notes for many topics if you want to delve that deep.I was also pleased to see that it's not just a book on string theory. The author also gives a very good historical background on relativity and quantum mechanics as well as the competing theories for unifying the two.

It's not easy to write a book about such a technically demanding subject for a general audience, and get the ideas across without the mathematics that supports them. The author works hard to accomplish this and, for the most part, does a good job. However, his line of argument, that string theory potentially can explain the universe at all scales, pushes the bounds of believability, at least for this reader. This book isn't easy reading, but I learned a lot from it and would certainly recommend it to anyone who would like to find out what string theory is about.

Brian Greene's The Elegant Universe was a national best seller and for me an interesting book. I bought The Elegant Universe to try to understang String Theory. I'm not a physicist with only one physics course taken. I've read the book A Brief History of Time by Stephan Hawking (4 stars, but a difficult read in the later chapters, a little about String Theory... see my review). The Elegant Universe is the first book I've read mainly about String Theory.The first 1/3 of The Elegant Universe was spectacular....5 stars. Brian did a great job of explaining Einstein's Special Theory of Relativity and General Theory of Relativity for large scale items of the universe and Quantum Mechanics for the very microscopic scale. We see the difficulty all the top scientists have had (including Einstein) to combine these theories into a universal law explaining the total universe that takes into consideration the week forces, strong forces, electromagnetic and gravitational forces. No one has been able to do it.The next 2/3 of the book was a more difficult reading. I still don't totally understand String Theory (I think few people do). Brian Greene did everything he could to try to

have String Theory explain both Einstein's Relativity theory for the large and Quantum Mechanics for the incredibly sub atomic small in one complete packaging trying for the grand prize Law that would tie in everything to explain the function of the entire universe.There is a lot of speculation and little proved. Brian even says we don't have the technology today to totally prove String Theory and make a Universal Complete Law. It may take decades and decades if ever. I still can not totally believe String Theory but will keep an open mind as I have not read anything else that combines the results of the theories of Relativity and Quantum Mechanics. Its hard to envision trillions and trillions of one dimensional microscopic strings with incredible strength vs point objects.Plus thrown in the vibrational frequencies of the strings themselves. Then there must be at least 10 dimensions for String Theory to work. Deep, deep stuff to believe. So far no way to prove it and just a fantastic idea shown to try to achieve the total Universal Law.First 1/3 of book 5 stars, later 2/3's 3 stars. Recommend this book but the later chapters are a little hard to understand. The Elegant Universe was a major Nova Special on PBS. I'm going to try to get a copy of that special, maybe it would help on String Theory understanding.Brian Greene a good author/physicist taking on a difficult subject. I purchased another book by Brian Greene, The Fabric Of The Cosmos and look forward to reading it.

The Elegant Universe: Superstrings, Hidden Dimensions, and the Quest for the Ultimate Theory, is, hands down, the BEST quantum physics, universal theory book, outside of scripture. This is the case because the author draws from all previous major authors, physicists, theories, and discoveries, ties them together, and then presents the results, in laymen's terms, so that anyone and everyone can effortlessly grasp and understand our currently most widely accepted understanding of our "elegant universe."The field that this covers is always evolving as new discoveries, understandings, and advancements are progressed, however, this book presents our currently most widely accepted understanding as exactly that, our current best observation. It also transparently labels questions as questions. It's amazing! 6 stars.

Your Life The Book of Secrets: Unlocking the Hidden Dimensions of Your Life (Chopra, Deepak) Hidden In Plain Sight 6: Why Three Dimensions? Burn for Me: A Hidden Legacy Novel (Hidden Legacy series, Book 1) (Hidden Legacy Novels) Music Theory: From Beginner to Expert - The Ultimate Step-By-Step Guide to Understanding and Learning Music Theory Effortlessly (Music Theory Mastery Book 1) Dowse Your Way to Psychic Power: The Ultimate Short-cut to Other Dimensions Gentleman: The Ultimate Companion to the Elegant Man Universal Orlando 2011: The Ultimate Guide to the Ultimate Theme Park Adventure (Universal Orlando: The Ultimate Guide to the Ultimate Theme Park Adventure) Universal Orlando 2013: The Ultimate Guide to the Ultimate Theme Park Adventure (Universal Orlando: The Ultimate Guide to the Ultimate Theme Park Adventure) Universal Orlando 2012: The Ultimate Guide to the Ultimate Theme Park Adventure (Universal Orlando: The Ultimate Guide to the Ultimate Theme Park Adventure) From Eternity to Here: The Quest for the Ultimate Theory of Time Elementary Particles : The Building Blocks of the Universe - Physics and the Universe | Children's Physics Books Universe of Stone: Chartres Cathedral and the Invention of the Gothic AKA Universe of Stone: A Biography of Chartres Cathedral First Meetings: In Ender's Universe (Other Tales from the Ender Universe)