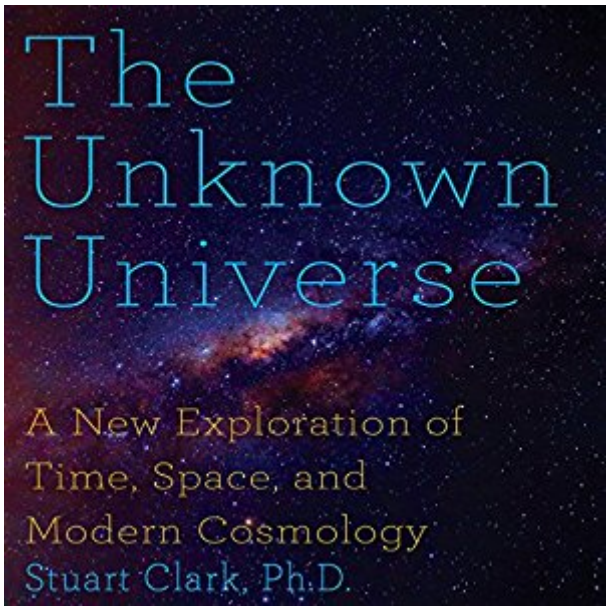
The Unknown Universe: A New Exploration Of Time, Space And Cosmology



Synopsis

A groundbreaking guide to the universe and how our latest deep-space discoveries are forcing us to revisit what we know - and what we don’t. On March 21, 2013, the European Space Agency released a map of the afterglow of the big bang. Taking in 440 sextillion kilometers of space and 13.8 billion years of time, it is physically impossible to make a better map: We will never see the early universe in more detail. On the one hand, such a view is the apotheosis of modern cosmology; on the other, it threatens to undermine almost everything we hold cosmologically sacrosanct. The map contains anomalies that challenge our understanding of the universe. It will force us to revisit what is known and what is unknown, to construct a new model of our universe. This is the first book to address what will be an epoch-defining scientific paradigm shift. Stuart Clark will ask if Newton’s famous laws of gravity need to be rewritten, if dark matter and dark energy are just celestial phantoms. Can we ever know what happened before the big bang? What’s at the bottom of a black hole? Are there universes beyond our own? Does time exist? Are the once immutable laws of physics changing?

Book Information

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Customer Reviews

interesting book and well presented.

I was saying these arguments quite some time ago and getting laughed out of the room! I agree that we have lost a generation of scientists.

This is a most enjoyable and informative journey through the history and accomplishments of cosmology. You marvel at the brilliance of those who explored the mysteries of space. How in the world did Kepler, early in the 1600s, detect the elliptical trajectory of planets and the law of ÃƒÂ¢Ã â ¬Ã Å“inverse squaresÃƒÂ¢Ã â ¬Ã Â• that governs their varying speed? How in the 18th century did they figure out the speed of light? If they asked you today to calculate the gravity laws governing the orbits of celestial bodies ÃƒÂ la Isaac Newton, could you do that? It is almost incomprehensible how human brains determined the distance between Earth and the Sun, the fusion of hydrogen into helium as the solar power source, or the bending of light waves by massive gravity ÃƒÂ¢Ã â ¬Ã â œ and prove it! And then, in the 20th century, the scientific acrobatics go entirely beyond ordinary humansÃƒÂ¢Ã â ¬Ã â„¢ wits, with such items as quantum leaps, EinsteinÃƒÂ¢Ã â ¬Ã â„¢s space-time continuum, gravitationally collapsed objects tens of thousands of lightyears away, the accelerating expansion of the universe and, in reverse counting, the exact timing of the ÃƒÂ¢Ã â ¬Ã Å“Day without YesterdayÃƒÂ¢Ã â ¬Ã Â•, the Big Bang, at 13.8 billion of years ago.DonÃƒÂ¢Ã â ¬Ã â„¢t think, however, ordinary folks could not find pleasure in this collection of astronomical facts. On the contrary, in this awesome chronicle Stuart ClarkÃƒÂ¢Ã â ¬Ã â„¢s narrative is quite entertaining in adding the human story of the astronomersÃƒÂ¢Ã â ¬Ã â„¢ ambitions, stubbornness, impediments and even international rivalry. In fact, the book is so rich in information that I read it twice, not to overlook any of the pearls.

I was looking for a layman’s explanation of dark matter and dark energy, and this came up on the search. This is actually more of an historic review of the science involved than the actual science, but it is a well written book that gives a good foundation.

It’s been fun, over the past few years, reading accounts of recent developments in physics, astronomy, and cosmology. The universe doesn’t look the way we thought it did at the start of the 20th century. There are many galaxies, not just one. The universe is expanding. There doesn’t appear to be enough matter--enough ordinary matter--to keep the galaxies together, and the rate at which the universe is expanding appears to be accelerating.The explanations offered for these last two developments are dark matter and dark energy. In this case, "dark" merely means that we do not have the faintest idea what they really are. We can’t detect them. They don’t seem to interact with ordinary matter at all. Except they hold galaxies together and expand the universe...Dark matter and dark energy are hypotheses that explain the observed facts, but so far there’s no direct

evidence for either. Stuart Clark discusses the problems with this, as well as the other ways in which recent observations, including a high-resolution photograph of the earliest part of the universe we can detect, have produced findings that just don’t fit well at all with the current "standard model" in physics.He thinks we’re due for a paradigm shift.Realizing Earth orbits the sun, not the other way around, was a paradigm shift. Realizing our galaxy isn’t the whole universe was a paradigm shift. At some point soon, he thinks, some young scientist somewhere will look at our current standard model, and throw out a basic assumption we all currently take for granted.His story of the history of physics, astronomy, and cosmology is lively and interesting, and he makes a compelling case for the need for a new paradigm that allows us to explain our current observations of the universe without the current multiple fudge factors needed to make our equations work.It’s a fascinating book.I bought this audiobook.

XXXXXÃƒÂ¢Ã â ¬Ã Å“It is intoÃƒÂ¢Ã â ¬Ã Â|uncharted realms that this book will journey.The search for answers will take us into the most mysterious places in the Universe; it will take us into the hearts of black holes, the moment of the Big Bang, and to a confrontation with the very nature of reality itself.ÃƒÂ¢Ã â ¬Ã Â•The above comes from the introduction of this fascinating and well-researched book by astrophysicist Stuart Clark. He is a Fellow of the Royal Astronomical Society, a consultant for the publication ÃƒÂ¢Ã â ¬Ã Å“New Scientist,ÃƒÂ¢Ã â ¬Ã Â• and a popular science writer.Those who have kept up with cosmology know the word ÃƒÂ¢Ã â ¬Ã Å“unknownÃƒÂ¢Ã â ¬Ã Â• (in this bookÃƒÂ¢Ã â ¬Ã â„¢s title) as applied to the universe is literally true because some 95% of it seems to be invisible, detectable only because this invisible partÃƒÂ¢Ã â ¬Ã â„¢s energy and gravity influences movements of the 5% we can see (such as stars and galaxies).What this book does in an excellent historical context is to show throughout that there are growing amounts of observations of the universe that cannot be resolved with todayÃƒÂ¢Ã â ¬Ã â„¢s cosmological theories.Thus, the author asks such things as if NewtonÃƒÂ¢Ã â ¬Ã â„¢s laws of gravity need to be rewritten; if dark matter and dark energy are real or just ÃƒÂ¢Ã â ¬Ã Å“celestial phantoms.ÃƒÂ¢Ã â ¬Ã Â• Can we ever know what happened before the Big Bang? What is exactly at the bottom of a black hole? Are there universes beyond our own? Does time exist? What is reality?All of this forces us to revisit what is known and what is unknownÃƒÂ¢Ã â ¬Ã â •to possibly construct a new model of our Universe. This is perhaps the first book that I am aware of to address what may be a major scientific paradigm shift.Finally, be careful when reading this book. As I said above, the author puts everything into historical context and does quite a good job of doing so since the writing is excellent. Just be mindful that this book is

more than a history book of science. This becomes more apparent as the book progresses.In conclusion, this guide forces us to revisit what we know and what we donÃƒÂ¢Ã â ¬Ã â„¢t know about our Universe!!(First published 2016; introduction; 10 chapters; main narrative 290 pages; further reading; image credits; index)XXXXX

The Unknown Universe: A New Exploration of Time, Space and Cosmology DARK ENERGY: The Biggest Mystery In The Universe (dark matter, how the universe works, holographic universe, quantum physics) (black holes, parallel universe, the string theory) Journey of Faith, Journey of the Universe: The Lectionary and the New Cosmology How Consciousness Became the Universe:: Quantum Physics, Cosmology, Relativity, Evolution, Neuroscience, Parallel Universes The Unknown Comic Collection: Journey Thru the Unknown and the Kardashians Joke Book The Seashell Anthology of Great Poetry by unknown unknown Edition [Paperback(2011)] Space Probes (History of Space Exploration) Space Pioneers (History of Space Exploration) What Does Space Exploration Do for Us? (Earth, Space, & Beyond) To the mysterious Lorian Swamp;: An adventurous & arduous journey of exploration through the vast waterless tracts of unknown Jubaland, We Have No Idea: A Guide to the Unknown Universe Launch Vehicles Pocket Space Guide: Heritage of the Space Race (Pocket Space Guides) Seismic Hydrocarbon Exploration: 2D and 3D Techniques (Advances in Oil and Gas Exploration & Production) The Trial of Galileo: Aristotelianism, the "New Cosmology," and the Catholic Church, 1616-1633 (Reacting to the Past) A Generalized Approach To Primary Hydrocarbon Recovery Of Petroleum Exploration & Production, Volume 4 (Handbook of Petroleum Exploration and Production) The Universe in Your Hand: A Journey Through Space, Time, and Beyond URBEX: Urban Exploration For Beginners: Discover Abandoned Buildings, Hidden Cities & Access All Areas (Urban Exploration, City Hacking, Caving, Urbex) How the Universe Got Its Spots: Diary of a Finite Time in a Finite Space Reactions: An Illustrated Exploration of Elements, Molecules, and Change in the Universe Information and the Internal Structure of the Universe: An Exploration into Information Physics