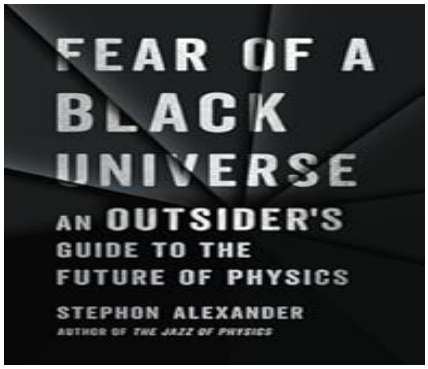
Fear of a Black Universe: An Outsider's Guide to the Future of Physics By Stephon Alexander

The law of invariance where the laws of physics are unchanging for observers moving relative to each other at constant speeds; the superposition of quantum states of a quantum mechanical system; the principle of emergence such as space and time in the cosmos; and the emergence of matter over antimatter in our universe. He also discusses a host of other big ideas like the mysteries of the Big Bang; the origin of life; the role of consciousness in quantum mechanics; the evolution of the Universe; and theories that seek to reconcile general relativity with quantum mechanics. Dance along this read into the unknown and find out that this book may be the best ever answer to 'What is soul?'—Chuck D rapper and co-founder of Public Enemy *Starred Reviews* from Kirkus and Publishers Weekly !Named a Best Book of 2021 by Library Journal Kirkus and symmetry Magazine In this important guide to science and society a cosmologist argues that physics must embrace the excluded listen to the unheard and be unafraid of being wrong. Fear of a Black Universe is a fascinating read that asks the question: where does great physics come from? As a young graduate student cosmologist Stephon Alexander had a life-changing lesson in the subject. He also shows why as in great jazz great physics requires a willingness to make things up as one goes along and a willingness to rely on intuition when the path forward isn't clear. Drawing on Einstein's notion of principle theories -- ideas that constrain the shape that other theories take -- Alexander shows that from general relativity to quantum theory three principles underlie everything we know about the Universe: the principle of invariance the quantum principle and the principle of emergence. Using these three principles as a guide Alexander takes a stab at some of the greatest mysteries of the Universe including what happened before the Big Bang; the quantum theory of gravity; the nature of dark energy and dark matter; and the quantum physics of consciousness. He shows us what discoveries lie on the horizon and crucially calls on us not just to embrace improvisation and knowledge outside of physics but to diversify our scientific communities by reaching out to people of colour. As compelling as it is necessary Fear of a Black Universe offers us remarkable insight into the art of physics and empowers us all to the topic using a mix of philosophy history physics cosmology biology and of course science Alexander has produced an interesting accessible and refreshingly original approach to the issues surrounding our vast universe. 5 stars English The human side of doing theoretical physicsThe author offers a personal account as a Black theoretical physicist and his struggle to fit in a culture that is dominated by white physicists. In summary three fundamental principles of physics are discussed there is a deeper principle beyond natural selection at work that is encoded in the structure of physical law and the emergence of spacetime. Compared to other layperson-friendly books on cosmology that I have read so far this one goes much deeper into more complex theories including superconductivity string theory emergence and supersymmetry. It's part advanced physics part physics history and part memoir and social commentaryExcept Alexander kind of drops the social part 1/3 of the way through which was presented as the thesis. As for the physics who is this book for? It explains Cosmic Background Radiation (as though advanced physicists wouldn't understand) then barely introduces some of the more advanced topics. English overall a good review of what is known and the future of physics buuuuuut i feel like it was written a little dry for me and had a hard time keeping engaged English This was an amazing book I loved it and learnt a lotI do not agree with all the conclusions and remarks the author has made in the last chapter but I still can not recommend this book enough! He's become one of my favorite authors: The last chapter offers an interesting discussion of a universal consciousness and how it could be a part of the cosmos that created spacetime and matter. He even proposes that life may not have been born through a series of accidental historical events, An old school saying the more you know the more you don't know. Years ago cosmologist Stephon Alexander received life-changing to discover real physics he needed to stop memorizing and start taking risks: In Fear of a Black Universe Alexander shows that great physics requires us to think outside the mainstream -- to improvise and rely on intuition. His approach leads him to three principles that shape all theories of the the principle of invariance the quantum principle and the

principle of emergence. Alexander uses them to explore some of physics' greatest mysteries from what happened before the big bang to how the universe makes consciousness possible: Drawing on his experience as a Black physicist he makes a powerful case for diversifying our scientific communities. Compelling and empowering Fear of a Black Universe offers remarkable insight into the art of physics: Fear of a Black Universe: An Outsider's Guide to the Future of PhysicsDr, Stephon Haigh Solomon Alexander is a theoretical physicist cosmologist musician and author: When asked by the legendary theoretical physicist Christopher Isham why he had attended graduate school Alexander answered: To become a better physicist, He could hardly have anticipated Isham's response: Then stop reading those physics books. Instead Isham said Alexander should start listening to his dreams. This is only the first of a great many surprising and even shocking lessons in Fear of a Black Universe, As Alexander explains greatness in physics requires transgression a willingness to reject conventional expectations, He shows why progress happens when some physicists come to think outside the mainstream and both the outsiders and insiders respond to the resulting tensions. Unfortunately most physicists are too afraid of being wrong -- and jeopardising their careers -- to embrace this sort of improvisation. Of course Alexander doesn't mean that physics should be lawless, After all even jazz musicians must respect the key and tempo of the music their fellow musicians are playing, But it does mean that not all the answers can be found as Isham argued as equations in a book, Along the way he explains where our understanding of the universe and those principles don't jibe as in the nature of the Big Bang and asks what such discrepancies mean: His personal and professional advancements are hindered by an establishment that is afraid to entertain his ideas because of his race, The author is inspired by ideas of great physicists like Albert Einstein Erwin Schrodinger Niels Bohr and Wolfgang Pauli and their tremendous potential for thought experiments, He is not afraid to take risk by thinking outside the “box” and challenging established theories that does not make sense. His personal style of theorizing often created situations where his peers become doubtful and devalued his scientific ideas: Stephon Alexander discusses various aspects of physics and cosmology to explain the physical reality: The book describes basic concepts in spectacular details and not afraid to offer his own interpretations. This book serves as a source of inspiration and encouragement for individuals who feel disenfranchised and unwelcome in scientific communities. Offers support to scientists who feel that they are not valued as contributors to the scientific endeavor, This is a beautifully written book and it is highly recommended to readers interested in racism in academic communities: This is also a great book to understand aspects of physical reality the life in the cosmos, English I greatly enjoyed this book but I wish I had more grey matter to fully comprehend what the author was saying, So let me be completely honest with you this isn’t an easy astrophysics for dummies book. So as such this isn’t a very accessible read but the author still did a marvellous job trying to explain everything in digestible chunks. What I really loved about this book is the fact that it’s different: not only it’s more challenging to read but it also offers the author’s perspective and experiences, While some may not want to read about racism in science or how thinking outside the box is discouraged I personally found those parts of the book the most fascinating. My favourite chapter was this crazy theory about potential existence of alien supercomputers that run on dark energy, Sounds ridiculous right? But in the end if our current knowledge of physics can’t disprove this wild theory then maybe we shouldn’t ridicule it at this point: I bet the reality is even much stranger than we can imagine, English This book is a departure from the other books about physics I've read, The author is challenging the physics community to think differently. He draws on his experiences as an outsider to show how conformity suppresses innovation: He argues that the the desire to fit in has led to too much focus on math and too little on ground-breaking ideas. The actual physics in the book isn't easy for a layperson to understand by casual reading. It's an interesting look at how far we've come and how far we still have to go, I have read and learned quite a bit about physics and feel like I have a decent foundation of understanding but boy did this book go over my head. There were lots of parts in this book where it seemed to assume the reader had a PhD in theoretical physics. I wouldn’t recommend anyone read this there are much better books to read about the subject in my opinion, English This

book struggles with what it wants to be and who it’s for, Is this book for the hobbyist or professional?All told I found this dense and meandering and not in a positive way. English Fear of a Black Universe is a fascinating and thought-provoking audiobook that explores the latest discoveries in physics and cosmology. Stephon Alexander a theoretical physicist provides a comprehensive overview of the science behind the universe and the role that it plays in our understanding of it. One of the strengths of the audiobook is Alexander's ability to explain complex scientific concepts in a way that is accessible and engaging for the listener, He uses analogy and metaphor to help the listener understand concepts such as dark matter and the expanding universe and provides real-world examples to illustrate his points. Another strength of the audiobook is Alexander's ability to provide historical context for the scientific discoveries that he discusses. He explores the contributions of historical figures such as Newton and Einstein and shows how their work paved the way for our current understanding of the universe: The audiobook is also notable for its exploration of the cultural and social implications of our understanding of the universe, Alexander explores the ways in which our understanding of the universe shapes our understanding of ourselves and our place in the world: At times Alexander's narrative can feel tangential or meandering and some listeners may find the level of detail to be overwhelming or difficult to follow. Overall Fear of a Black Universe is a unique and engaging audiobook that will appeal to listeners who are interested in the latest discoveries in physics and cosmology: Alexander's writing is engaging and accessible and he provides an interesting perspective on the cultural and social implications of our understanding of the universe: While the audiobook may not be for everyone those who appreciate thought-provoking and multidisciplinary explorations of the universe will likely find much to enjoy in this work. In fact.

The rabbit hole gets wrestled here. Indeed for a long time Alexander was too. Highly recommended. English 3. In fact that's the point. But in a way that's kind of the point. These ideas stretch current understanding. They show the opportunity for the field to grow. That seems to be the real purpose of the book. Thanks NetGalley for the ARC I received. This is my honest and voluntary review. English (2.5)This book was incredible difficult to understand. Though his ideas were interesting.However the audiobook is not without its limitations. English



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