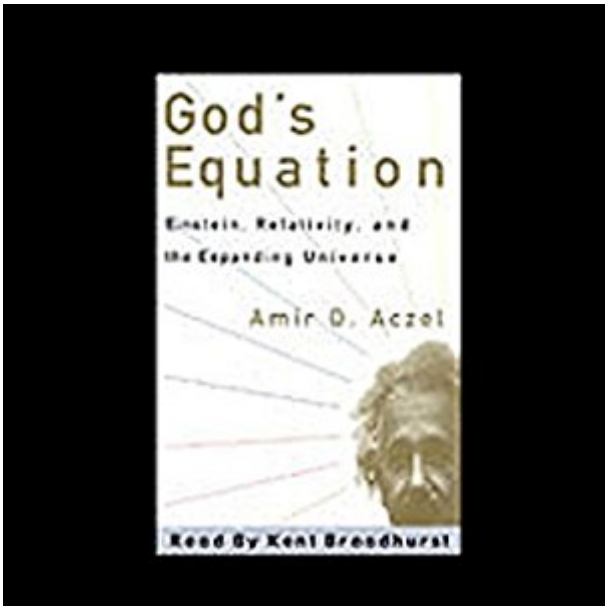
God's Equation: Einstein, Relativity, And The Expanding Universe



Synopsis

The product of research around the globe and interviews with dozens of prominent scientists, God’s Equation discusses the latest developments in cosmology, the study of the nature of the universe. Using Einstein and his theories to explain the links between relativity and cosmology via Einstein’s "cosmological constant," Aczel tells us it is almost as though Einstein were God’s mouthpiece, revealing the most fundamental truths about our larger environment, truths scientists are just now confirming. And yet Aczel reveals a side of Einstein - the man - no one else has brought to light. Aczel is the first to have translated certain letters of Einstein, in private hands until recently. These letters cast a new spin on Einstein’s relationship with other scientists and his early efforts to prove his revolutionary theory that a strong gravitational force will make light bend.

Book Information

Audible Audio Edition
Listening Length: 7 hoursÂ andÂ 23 minutes
Program Type: Audiobook
Version: Unabridged
Publisher: Random House Audio
Audible.com Release Date: November 30, 2000
Language: English
ASIN: B000056HDU
Best Sellers Rank: #67 inÂ Books > Audible Audiobooks > Science > Astronomy #234 inÂ Books > Audible Audiobooks > Science > Physics #1168 inÂ Books > Science & Math > Physics > Quantum Theory

Customer Reviews

Aczel, whose book about Fermat’s last theorem was an enjoyable romp through the history of mathematics, now turns his attention to Einstein’s theory of general relativity and its implications for cosmology. Based on his work with some historians who are taking a fresh look at Einstein’s life and work through recently discovered notebooks and correspondence (Renn, Stachel, et.al), Aczel is able to reveal some previously unknown factoids about the 20th century’s greatest scientist. For example, a previously unknown notebook from about 1912 reveals that Einstein had produced his field equation for gravitation nearly 3 years earlier than its final publication in 1915. Apparently Einstein was not convinced of the accuracy of this equation, for he abandoned it, only to rederive it 3 years later with apparently no recollection that he’d been there before. Aczel also spends some

effort refuting the popular myth that Einstein was no good at mathematics. He was a superb mathematician, says Aczel, and largely self-taught, which speaks to his agile intellect and intuitive sense for fruitful areas of research.Unlike any other biographies of Einstein or expositions of relativity that I've read, Aczel takes a "mathematician's eye view" of general relativity, and spends considerable time tracing the development of the geometry of curved space through Gauss, Reimann, and several other lessor known contributors. He also reveals, which I had not known previously, that Einstein kept up an ongoing correspondence with the legendary British mathematician David Hilbert, and that Hilbert published some work of his own based on early copies of Einstein's field equations.

I thoroughly enjoyed Fermat's Last Theorem, also by Aczel, so perhaps I came to this book with unfairly high expectations, but I was a little disappointed. Make no mistake, it's a good read and the author's account of Einstein's struggle to get experimental verification of relativity (including showing his tendency to be unduly harsh in dealing with others) humanizes the great physicist in a way few volumes have. But there are some flaws, some minor, others more serious.One minor gripe is that the pacing of the book is uneven; it drags in places and picks up in others. Interestingly but perhaps not surprisingly considering the author, the pace seems to pick up just at those times when Aczel is discussing the mathematics involved. I could almost feel his enthusiasm for his subject rising. (Those discussions are excellent, by the way.)I also confess to being annoyed at how, if you follow Aczel, no one measures up to Einstein, everyone falls short, everyone is in his shadow and if only somehow he had lived longer he would have solved - as only he could - all these questions which now plague astrophysics. Admiration is one thing, hero-worship is another.A more serious flaw is that Aczel, while a master of the mathematics involved, seems to be not well-versed in the state of observational knowledge of cosmology. He says, for example, that just a few years ago, most scientists maintained that the expansion of the universe would slow, stop, and reverse into a "Big Crunch." Some, he says, held it would slow to a stop and then maintain a steady state, neither expanding nor contracting - and "only a few" believed the expansion would continue forever.

Introduction to Einstein’s Ideas, and Why They Matter Newton to Einstein: The Trail of Light: An Excursion to the Wave-Particle Duality and the Special Theory of Relativity Six Not-So-Easy Pieces: Einstein’s Relativity, Symmetry, and Space-Time It’s About Time: Understanding Einstein’s Relativity Einstein’s Cosmos: How Albert Einstein’s Vision Transformed Our Understanding of Space and Time: Great Discoveries Albert Einstein: The incredible life, discoveries, stories and lessons of Einstein! Baby Einstein: Water, Water Everywhere (Baby Einstein (Special Formats)) Einstein: A Life of Genius | The True Story of Albert Einstein (Historical Biographies of Famous People) Einstein: His Life and Universe Pricing the Future: Finance, Physics, and the 300-year Journey to the Black-Scholes Equation Principles and Practice of Structural Equation Modeling, Fourth Edition (Methodology in the Social Sciences) Localization in Periodic Potentials: From SchrÃ¶dinger Operators to the Gross-Pitaevskii Equation (London Mathematical Society Lecture Note Series) Entropy Methods for the Boltzmann Equation: Lectures from a Special Semester at the Centre Ã‰mile Borel, Institut H. PoincarÃ©, Paris, 2001 (Lecture Notes in Mathematics) The Startup Equation: A Visual Guidebook to Building Your Startup The Happiness Equation: Want Nothing + Do Anything = Have Everything