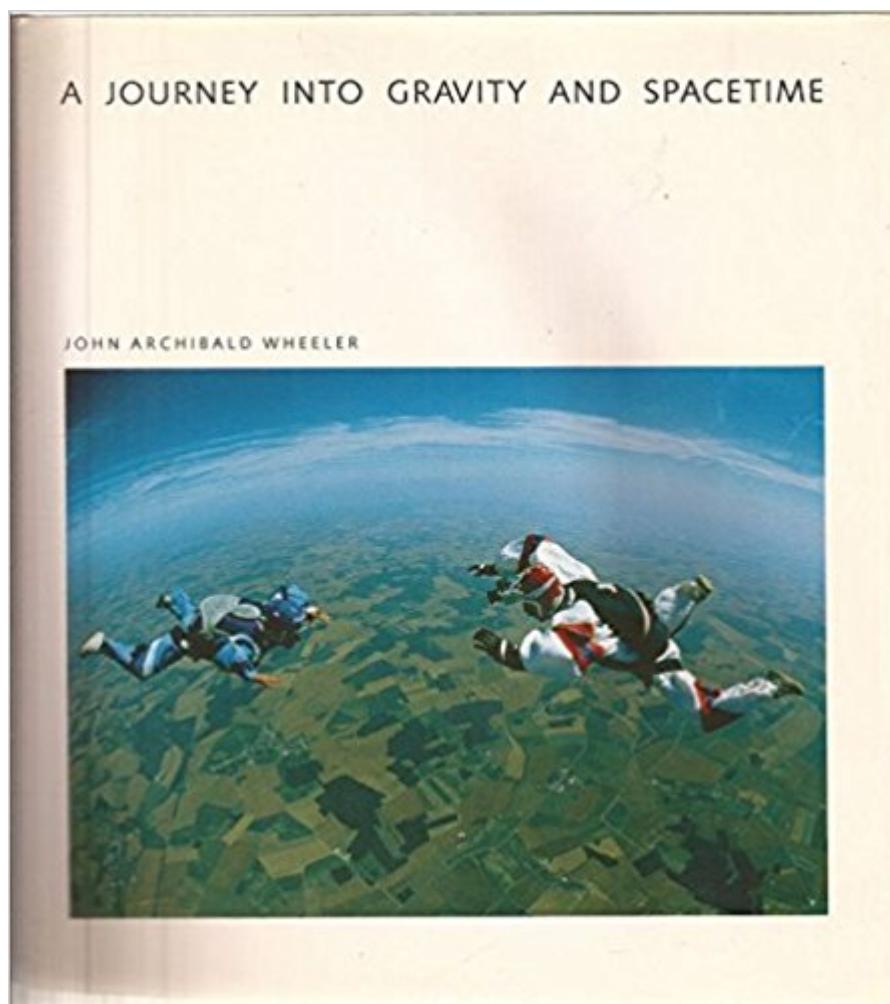


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A Journey Into Gravity And Spacetime (Scientific American Library)



Synopsis

Gravity is not a force acting at a distance. It is mass gripping spacetime, telling it how to curve, and spacetime gripping mass, telling it how to move. According to preeminent physicist John Archibald Wheeler, gravity makes the closest connection between the world we see around us and the inner-most workings of the universe. In this imaginative volume, Wheeler explores gravity and spacetime by applying Einstein's battle-tested theory to both familiar and exotic phenomena--everything from flying tennis balls, to hurling gravity waves from crashing stars, the motion of the planets, and the collapse of a star into a black hole. It's a provocative, revealing, fully engaging scientific journey led by a frontline participant in the most important work in physics in the last 50 years. --This text refers to an out of print or unavailable edition of this title.

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Customer Reviews

"Journey into Gravity and Spacetime is a colorful and imaginative introduction to a topical subject, delightfully produced. Wheeler complements his subject by continually demonstrating its underlying simplicity, in the face of the apparent magnitude of the task. I recommend this book to anyone wishing to gain an honest insight into the wonders of gravity and the physics of spacetime." -- Times Higher Education Supplement "A thorough exploration of Einstein's geometric theory of gravity and its implications for the relationship between mass and spacetime." -- Nature "I am reading Wheeler so that I can write more intelligently about Einstein's general theory of relativity." -- Isaac Asimov, Night Table Reading, Vanity Fair "Wheeler takes the reader into a world of space-time, gravitational waves, and black holes. As one of the foremost contributors to the study of relativity, and as the person mainly responsible for the resurgence of interest in general relativity in the 1960s, he is well

qualified to write such a book. . . . Strongly recommended." -- Choice --This text refers to an out of print or unavailable edition of this title.

John Archibald Wheeler is Joseph Henry Professor Emeritus at Princeton University and was, until his retirement, Blumberg Professor of Physics and Director, Center for Theoretical Physics at the University of Texas at Austin. A past president of the American Physical Society, he is a recipient of the Enrico Fermi Award (1968), the National Medal of Science (1971), the Niels Bohr International Gold Medal (1982) and the Wolf Prize (1997). --This text refers to an out of print or unavailable edition of this title.

This book is absolutely fascinating because, using almost no mathematics (just simple arithmetic), it explains General Relativity, mostly with geometric intuition. But the reader must be warned: it is not simple reading, and probably the reader who already understands in some way the mathematical machinery is better prepared to understand it fully. It is, at it stands, not exactly a layman's introduction to the subject, but an exposition of the subject, because it really gives Einstein's field equations (it achieves this task by the middle of the book), and its most important applications ... just without algebra, but with images. This is the reason that the already working physicist may enjoy it a lot: it gives colors and images to abstract formalism. This book has connections and may be considered as a sort of introduction to other books by the author: Spacetime Physics and Exploring Black Holes (with Edwin Taylor, being a pair of books that give an introduction to Relativity, special and general respectively, but using only algebra and simple calculus) and Gravitation (with Kip Thorne and Charles Misner, being a rigorous account of General Relativity but in the same geometrical spirit). It is perhaps possible to attain a complete understanding being a complete layman, I don't know. But at any rate, as you read you cannot avoid the feeling of profound simplicity of Einstein's ideas, and at the same time his genious, unparalleled in human history. The newcomer may get a glimpse of what Einstein really did, and the professional physicist may see how one can see the equations - so the read is really a very fruitful one.

Lyrical at times. A book in which this wonderful physicist reveals himself far more intimately than other scientists do. Has a bias toward general relativity with strong links to Taylor and Wheeler, "Spacetime Physics," a book that devotes itself entirely to special relativity. Deserves a place in any library of physics books that include works of this remarkable man, a physicist with a truly original mind who contributed new ideas and innovation to the physics of the twentieth century. Though he

spent the last half of his career in general relativity he contributed widely to the rest of the field, and, working with his graduate student Richard Feynman, set up the platform from which Feynman would launch his Nobel Prize winning formulation of quantum electrodynamics.

It's by Wheeler... what more needs to be said. This should be considered an entry level treatise. It's slightly dated but still presents a learning experience. I've bought three copies over the years: a hard back for my son, a hardback for me and a paper back to loan out. The very fact that you're interested enough to be reading this review means you ought to spring for a copy. There are lots of diagrams and a little math: nothing too complicated. If you're a student, you'll enjoy posing questions in class and bringing ideas into discussions. However, you better know what you're talking about: there is always somebody smarter than you.

Excellent perspective of a difficult subject from a favorite quantum physicist

Usually, science books are either for laymen (that don't know math very deeply) or for expert readers (which are working on the subject and have high math skills). I think the problem with this book is that it is neither. John Wheeler (author of "Spacetime Physics", together with Edwin Taylor, which is quite a good book on Special Relativity, and also on the basis of General Relativity) tries to explain Gravity (so, General Relativity) in an sort of poetic way. However, even though it is an original way that works well in the first chapters, it stops working after those initial chapters, when the subject starts to get a little bit harder. As a laymen (although with an Engineering degree - so, with some math and physics background), I got lost after the initial chapters and was unable to fully understand the last chapters. For an expert, I think the book is too "poetic" to be of any practical interest. If you want to know about Special Relativity and have a glimpse on General Relativity, I think "Spacetime Physics" is a better choice.

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