Inside Relativity

An easy to understand collection of the ideas of one of the greatest scientists of the twentieth century including the idea he is most known for, the theory of relativity Redesigned inside and out to have a fresh, appealing look, this new edition of a classic Crown Trade Paperback is a collection of Einstein's own popular writings on his work and describes the meaning of his main theories in a way virtually everyone can understand.

Clarity, readability, and rigor combine in the third edition of this widely used textbook to provide the first step into general relativity for advanced undergraduates with a minimal background in mathematics. Topics within relativity that fascinate astrophysics researchers and students alike are covered with Schutz's characteristic ease and authority, from black holes to relativistic objects, from pulsars to the study of the Universe as a whole. This third edition contains discoveries by astronomers that require general relativity for their explanation; two chapters on gravitational waves, including direct detections of gravitational waves and their observations' impact on cosmological measurements; new information on black holes and neutron stars; and greater insight into the expansion of the Universe. Over 300 exercises, many new to this edition, give students the confidence to work with general relativity and the necessary mathematics, while the informal writing style and worked examples make the subject matter easily accessible.

In this book, a professor of literature and a physicist offer a broad, new, interdisciplinary account of Modernism. Thomas Vargish and Delo E. Mook encompass physics, the visual arts and literature in a thought-provoking analysis of the period from the 1880s to World War II. Uncovering common structures and values underlying each of these disparate fields, the authors define Modernism and its historical location between nineteenth-century intellectual conventions that preceded it and the Postmodernism that followed. Bridging boundaries that traditionally divide disciplines, Vargish and Mook create a uniquely coherent and comprehensive view of the aesthetics and intellectual values that characterize the culture of Modernism.

Unifying the Universe: The Physics of Heaven and Earth provides a solid background in basic physics. With a humanistic perspective, it shows how science is significant for more than its technological consequences. The book includes clear and well-planned links to the arts and philosophies of relevant historical periods to bring science and the huma

The Large Scale Structure of Space, Time and Velocity

Thought Experiments

Time

The Race to Test Relativity

Cosmology Revealed: Living Inside the Cosmic Egg

Special Relativity and Classical Field Theory

A layperson's introduction to the theory of relativity and its significance discusses such topics as time travel, curved space, black holes, the big bang, gravity, and twenty-first-century physics. Reprint. 13,000 first printing.

From the Prime Meridian Conference of 1884 to the celebration of the millennium in 2000; from the fiction of Joseph Conrad to the novels of William Gibson and W.G. Sebald, Reading the Times offers fresh insight into modern narrative.

Dante's metaphysics--his understanding of reality--is very different from our own. To present Dante's ideas about the cosmos, or God, or salvation, or history, or poetry within the context of post-Enlightenment presuppositions, as is usually done, is thus to capture only imperfectly the essence of those ideas. The recovery of Dante's metaphysics is essential, argues Christian Moevs, if we are to resolve what has been called "the central problem in the interpretation of the Comedy ." That problem is what to make of the Comedy 's claim to the "status of revelation, vision, or experiential record--as something more than imaginative literature." In this book Moevs offers the first sustained treatment of the metaphysical picture that grounds and motivates the Comedy , and of the relation between those metaphysics and Dante's poetics. He carries this out through a detailed examination of three notoriously complex cantos of the Paradiso , read against the background of the Neoplatonic and Aristotelian tradition from which they arise. Moevs finds the key to the Comedy 's metaphysics and poetics in the concept of creation, which implies three fundamental insights into the nature of reality: 1) The world (finite being) is radically contingent, dependent at every instant on what gives it being. 2) The relation between the world and the ground of its being is non-dualistic. (God is not a thing, and there is nothing the world is "made of") 3) Human beings are radically free, unbound by the limits of nature, and thus can find all of time and space within themselves. These insights are the foundation of the pilgrim Dante's journey from the center of the world to the Empyrean which contains it. For Dante, in sum, what we perceive as reality, the spatio-temporal world, is a creation or projection of conscious being, which can only be known as oneself. Moevs argues that self-knowledge is in fact the keystone of the Aristotelian and Neoplatonic philosophical tradition, and the essence of the Christian revelation in which that tradition culminates. Armed with this new understanding, Moevs is able to shed light on a series of perennial issues in the interpretation of the Comedy . In particular, it becomes clear that poetry coincides with theology and philosophy in the poem: Dante poeta cannot be distinguished from Dante theologus .

This book explains why anti-realism is so popular with philosophers of science by showing that many contemporary philosophers of science and language, who define themselves as empiricists, in fact have evolved into linguistic idealists.

Literature 1988, Part 1

ABC of Relativity

Einstein's Jury

The Fourth General Relativity Effect Inside Matter

Foundations of Astronomy

Six Not-So-Easy Pieces

From the reviews: "Astronomy and Astrophysics Abstracts has appeared in semi-annual volumes since 1969 and it has already become one of the fundamental publications in the fields of astronomy, astrophysics and neighbouring sciences. It is the most important English-language abstracting journal in the mentioned branches. ...The abstracts are classified under more than a hundred subject categories, thus permitting a quick survey of the whole extended material. The AAA is a valuable and important publication for all students and scientists working in the fields of astronomy and related sciences. As such it represents a necessary ingredient of any astronomical library all over the world." Space Science Reviews#1 "Dividing the whole field plus related subjects into 108 categories, each work is numbered and most are accompanied by brief abstracts. Fairly comprehensive cross-referencing links relevant papers to more than one category, and exhaustive author and subject indices are to be found at the back, making the catalogues easy to use. The series appears to be so complete in its coverage and always less than a year out of date that I shall certainly have to make a little more space on those shelves for future volumes." The Observatory Magazine#2

Everything’s gone screwy at Tagai Academy. When the headmaster forces Minagi’s entire class to study Einstein’s theory of relativity over summer school, Minagi volunteers to go in their place. There’s just one problem: He’s never even heard of relativity before! Luckily, Minagi has the plucky Miss Uraga to teach him. Follow along with The Manga Guide to Relativity as Minagi learns about the non-intuitive laws that shape our universe. Before you know it, you’ll master difficult concepts like inertial frames of reference, unified spacetime, and the equivalence principle. You’ll see how relativity affects modern astronomy and discover why GPS systems and other everyday technologies depend on Einstein’s extraordinary discovery. The Manga Guide to Relativity also teaches you how to: –Understand and use E = mc2, the world’s most famous equation –Calculate the effects of time dilation using the Pythagorean theorem –Understand classic thought experiments like the Twin Paradox, and see why length contracts and mass increases at relativistic speeds –Grasp the underpinnings of Einstein’s special and general theories of relativity If the idea of bending space and time really warps your brain, let The Manga Guide to Relativity straighten things out.

The book takes a devil's eye view of salvation history. It starts with a review of the Holy Qur'an in relation to the Hindu Dvaita Vedanta approach of Abraham (probably a Brahmin from Ur), as elaborated by Moses and Jesus. Then it goes on to analyse the role in salvation history of Ramakrishna and Vivekananda. Meantime a Teddy Bear (thought to be a macro interdimensional being) provides an interlude in a Chapter called "The Prophet Pinocchio". This gets some of the junior devils laughing for the first time in several aeons. The junior devils are in revolt, because evil is so boring. They also do not much like the idea that they will all go to hell after the Last Judgment, and they are looking for a way out. That is provided by the author in the last chapter. The last chapter is very long. It is all about Jesus. It also covers quite a lot of modern physics, including some ideas from Jesus himself that are far ahead of our present science. Since the junior devils control all the browsers in the diabolical internet, and are experts on the encryption used therein, they are able to conceal their revolt from higher authorities. The message is "All will be well; and all manner of things will be well"; (as Saint Julian of Norwich said).

Fascinating, engaging, and extremely visual, FOUNDATIONS OF ASTRONOMY, Thirteenth Edition, emphasizes the scientific method throughout as it guides students to answer two fundamental questions: What are we? And how do we know? In addition to exploring the newest developments and latest discoveries in the exciting field of astronomy, authors Michael Seeds and Dana Backman discuss the interplay between evidence and hypothesis, providing both factual information and a conceptual framework for understanding the logic of science. Important Notice: Media content referenced within the product description or the product text may not be available in the ebook version.

Recent Developments in General Relativity

Einstein's Relativity, Symmetry, and Space-Time

Beyond the Inner and the Outer

THe Metaphysics of Dante's Comedy

Dark Matter Mystery Explained by Euclidean Version of Relativity

A First Course in General Relativity

The English Novel in History 1840-1895 refocuses in cultural terms a particularly powerful achievement in Victorian narrative - its construction of history as a social common denominator. Using interdisciplinary material from literature, art, political philosophy, religion, music, economic theory and physical science, this text explores how nineteenth-century narrative shifts from one construction of time to another and, in the process, reformulates fundamental modern ideas of identity, nature and society.

Once upon a time life was simpler. Information came to us through gossip, books, newspapers, the radio and newsreels at the movies. Then came television. Initially the first news shows were only 15 minutes in length but gradually expanded until now we have CNN with its 24-hour coverage. But none of this was going to compare to the master of all information inundation - the Internet. Information overload, once confined to the few, is now the headache of the many. Surely not all this information carries equal weight. Some, if not most, is out-right nonsense. How do we discern between accurate information and facts that are not? By detailing how science is a process, a method of obtaining truth, this book hopes to arm the reader with tools with which to apply intelligent thinking, thinking that is critical, skeptical and evidenced based. Once you know why microwave radiation cannot induce cancer you become impervious to the fears of cell phone use. Once you understand the laws of probability you are better equipped to decide whether or not it is prudent to buy that lottery ticket or, better yet, which games at Vegas give you the best chance of winning and which you should avoid as the plague. Yes, you can get your arms around Einstein's Theory of Relativity, Quantum Physics and the newest advances in neuroscience - the study of the brain, of consciousness, of awareness - the study of you. No, you do not need math and formulas. Science can even answer those riddles from childhood: 1. What came first, the chicken or the egg? 2. If a tree falls in the forest does it make a sound? 3. Is it night that follows day or day that follows night?

Here a physicist and a professor of literature guide general readers through the ideas that revolutionized our conception of the physical universe.

This book offers a fresh approach to the problem of the philosophy of nature. Written by a specialist whose competence is unquestionable, the book aims at simplicity without sacrificing profundity. The important problems raised by modern science with respect to the philosophy of nature are treated in such a way as to be understandable even to those whose knowledge of physical science is rather limited. Careful considerations is given to historical factors which have in the past so often led to confusion of philosophy and science and which even in the present time remain a source of conflict between scientist and philosophers.

Death to Einstein!

How to Teach Relativity to Your Dog

Temporality and History in Twentieth-Century Fiction

An Introduction To Relativistic Symmetry In Electrodynamics And Gravitation

Lagrangian Interaction

Relativity

The third volume in the bestselling physics series cracks open Einstein's special relativity and field theory Physicist Leonard Susskind and data engineer Art Friedman are back. This time, they introduce readers to Einstein's special relativity and Maxwell's classical field theory. Using their typical brand of real math, enlightening drawings, and humor, Susskind and Friedman walk us through the complexities of waves, forces, and particles by exploring special relativity and electromagnetism. It's a must-read for both devotees of the series and any armchair physicist who wants to improve their knowledge of physics' deepest truths.

Six lectures, all regarding the most revolutionary discovery in twentieth-century physics: Einstein's Theory of Relativity. No one--not even Einstein himself--explained these difficult, anti-intuitive concepts more clearly, or with more verve and gusto, than Feynman.

"There is no shortage of literature on Einstein and relativity, yet Crelinsten succeeds in providing a novel and fruitful perspective on how Einstein's theory of general relativity was received in its early years. By focusing on the astronomers rather than the physicists, and America rather than Europe, he adds a valuable chapter to the history of modern science in which scientific and social aspects are treated equally and in the same compelling detail."--Helge Kragh, University of Aarhus, Denmark "Jeffrey Crelinsten has written a wonderful book that fills an important gap in our knowledge of the reception and acceptance of general relativity in the scientific community: he focuses on the crucial role played by astronomers, particularly in the United States. In a fascinating account he describes how general relativity was tested and confirmed and how the new field of relativistic cosmology emerged out of this work. I wish this book had appeared earlier!"--A. J. Kox, University of Amsterdam "An excellent book, with wonderful gems that arise out of the author's mastery of the literature. It will be enormously useful to Einstein scholars as well as to those interested in the history of astronomy."--Daniel Kennefick, University of Arkansas "A fascinating and detailed story of the emergence of modern cosmology that reaches back to the debates over the validity of Einstein's theory of general relativity during the early decades of the twentieth century. This is an American tale of pragmatism and empiricism, of eclipse expeditions and of the intrepid spirit of those who built the world's largest astronomical observatories and discovered an expanding universe."--Diana Kormos Buchwald, Einstein Papers Project, Caltech "An overwhelming accomplishment that surely will have a lasting impact on the history of the subject. So much is laid to rest about the dominance of the 'Eddington' 1919 eclipse result and its resulting PR as to be an eye-opener to many (to most) would-be-historians. [Crelinsten's] research into original sources is powerful and makes the case!"-- Allan R. Sandage, Staff Astronomer Emeritus, The Observatories (Pasadena, CA) Carnegie Institution of Washington "Since the 1960s, scientists have shown with exquisite precision that Einstein was right about relativity. But for relativity's first two decades (1910-1930), the case for Einstein was hardly a slam dunk. Jeffrey Crelinsten tells the exciting roller-coaster story of the early experimental tests of special and general relativity, from light deflection measurements to ether-drift tests. Believers debated skeptics, but in the end, the jury was swayed by the data. Crelinsten's tale reads like a scientific courtroom thriller."--Clifford Will, Washington University in St. Louis, author of Was Einstein Right?

Einstein's theory is presented in a simplified manner. Upper level high school students who are technically inclined should find it interesting and within their grasp.

The Theoretical Minimum

The Philosophy of Nature

Relativity Demystified

Unifying the Universe

Theology, Philosophy, and the Sciences

The English Novel in History, 1840-1895

Time has always been the great Given, a fact of existence which cannot be denied or wished away; but the character of lived time is changing dramatically. Medical advances extend our longevity, while digital devices compress time into ever briefer units. We can now exist in several time-zones simultaneously, but we suffer from endemic shortages of time. We are working longer hours and blurring the distinctions between labour and leisure. For many, in an inversion of the old adage, time has become more valuable than money. In this look at life's most ineffable element, spanning fields from biology and culture to psychoanalysis and neuroscience, Eva Hoffman asks: are we coming to the end of time as we know it?

In this short but devastating book, several glaring inconsistencies in Einstein's celebrated theory are revealed and explored, inconsistencies that doom relativity to an ignoble death. When the dust settles from relativity's implosion, the author points to where an alternative theory might be found, and in doing so, boldly goes where no sane physicist will dare to follow. Books by crackpots attempting to debunk relativity are indeed plentiful, so how is this one any different? It has illustrations! Well, that and irrefutable evidence that the true crackpots are the ones who adhere to Einstein's demonstrably untenable theory.

The Mathematics of Relativity for the Rest of Us is intended to give the generally educated reader a thorough and factual understanding of Einstein's theory of relativity - including the difficult mathematical concepts, even if the reader is not trained in higher mathematics.

Einstein's theory of relativity shattered the world of physics - replacing Newtonian ideas of space and time with bizarre and counterintuitive conclusions: a world of slowing clocks and stretched space, black holes and curved space-time. This Very Short Introduction explores and explains the theory in an accessible and understandable way.

Inside Modernism

Consciousness In Four Dimensions: Biological Relativity and the Origins of Thought

A Companion to Albert the Great

Relativity: A Very Short Introduction

Exposing Special Relativity's Fatal Flaws

Relativity Theory, Cubism, Narrative

This book deals with special relativity theory and its application to cosmology. It presents Einstein's theory of space and time in detail, and describes the large scale structure of space, time and velocity as a new cosmological special relativity. A cosmological Lorentz-like transformation, which relates events at different cosmic times, is derived and applied. A new law of addition of cosmic times is obtained, and the inflation of the space at the early universe is derived, both from the cosmological transformation.

This book suggests an explanation for "dark matter mystery". The explanation is based upon a Newton's law modification. This modification is conducted from an Euclidean vision of relativity. The velocities of the stars inside a galaxy, and the velocity of the galaxies themselves are explained with a surprising fashion.

In this collection of seventeen essays, the author ruminates on the moon's effect on human behavior, the makeup of the Milky Way, interstellar travel, and right and wrong absolutes in scientific theory

One of the subject's clearest, most entertaining introductions offers lucid explanations of special and general theories of relativity, gravity, and spacetime, models of the universe, and more. 100 illustrations.

Science, Reality, and Language

The Relativity of Wrong

Simply Einstein

Understanding Einstein's Theories of Relativity

The Special and the General Theory

Reading the Times

The ABC of Relativity steers the reader who has no knowledge of maths or physics through the subtleties of Einstein's thinking.

Contributions to this omnibus volume from twenty-seven internationally renowned scholars will introduce students of philosophy, science, and theology to the current state of research and multiple perspectives on the work of Albert the Great.

The 13th Italian Conference on General Relativity and Gravitational Physics was held in Cala Corvino-Monopoli (Bari) from September 21to September 25, 1998. The Conference, which is held every other year in different Italian locations, has brought together, as in the earlier conferences in this series, those scientists who are interested and actively work in all aspects of general relativity, from both the mathematical and the physical points of view: from classical theories of gravitation to quantum gravity, from relativistic astrophysics and cosmology to experiments in gravitation. About 70 participants came from Departments of Astronomy and Astrophysics, Departments of Mathematics and Departments of Experimental and Theoretical Physics from all over the Country; in addition a few Italian scientists working abroad kindly accepted invitations from the Scientific Committee. The good wishes of the University and of the Politecnico di Bari were conveyed by the director of Diparti mento Interuniversitario di Matematica, Prof. Franco Altomare. These proceedings contain the contributions of the two winners of the SIGRAV prizes, the invited talks presented at the Conference and most of the contributed talks. We thank all

of our colleagues, who did their best to prepare their manuscripts. The pleasant atmosphere induced by the beauty of the place was greatlyenhanced not only by the participation of so many colleagues, who had lively discussions about science well beyond Conference hours, but also by the feeling of hospitalityextended to the participants by the staff of the Cala Corvino Hotel, where the Conference was held.

Through Fairall's clear writing style, this book explains the very nature of the universe in which we dwell and incorporates a special color feature that offers three-dimensional views of the surrounding universe to ever greater depth.

Wittgenstein’s Philosophy of Psychology

Knowledge

Relativity Simply Explained

The Manga Guide to Relativity

Cosmological Special Relativity

The Mathematics of Relativity for the Rest of Us

In a book that will profoundly alter the modern discourse on mind and influence the practice of neuromedicine, neurobiologist/neuropsychiatrist, Richard M. Pico unveils a revolutionary new approach to understanding consciousness that pinpoints its origins in the brain. Called “Biological Relativity,” the approach combines the laws of physics—especially Einstein’s laws of relativity—to the latest breakthroughs in neuroscience, molecular biology, and computational theory to create a coherent four-dimensional model for explaining the origins of life and the emergence of complex biological systems—from the living cell to the thinking brain. In a fascinating, ambitious narrative that draws upon a lifetime of experimental and clinical work, Dr. Pico tells a riveting story that begins in the imponderably distant past, with the first proto-cell that endured long enough to become its own frame of reference—both structurally and temporally—and culminates with the most complex biological referent system known to science, the human brain. He then elaborates his groundbreaking theory through discussions of such things as the origins of language, music, and mathematics. He explains why he believes consciousness is uniquely human, and explores the causes and potential treatments for a variety of thought disorders.

Sorensen presents a general theory of thought experiments: what they are, how they work, what are their virtues and vices. On Sorensen's view, philosophy differs from science in degree, but not in kind. For this reason, he claims, it is possible to understand philosophical thought experiments by concentrating on their resemblance to scientific relatives. Lessons learned about scientific experimentation carry over to thought experiment, and vice versa. Sorensen also assesses the hazards and pseudo-hazards of thought experiments. Although he grants that there are interesting ways in which the method leads us astray, he attacks most scepticism about thought experiments as arbitrary. They should be used, he says, as they generally are used--as part of a diversified portfolio of techniques. All of these devices are individually susceptible to abuse, fallacy, and error. Collectively, however, they provide a network of cross-checks that make for impressive reliability.

This book offers an alternative to other textbooks on the subject, providing a more specific discussion of numerous general relativistic effects for readers who have knowledge of classical mechanics and electrodynamics, including special relativity. Coverage includes gravitational lensing, signal retardation in the gravitational field of the Sun, the Reissner-Nordström solution, selected spin effects, the resonance transformation of an electromagnetic wave into a gravitational one, and the entropy and temperature of black holes. The book includes numerous problems at various levels of difficulty, making it ideal also for independent study by a broad readership of advanced students and researchers. I.B. Khriplovich is Chief Researcher, Budker Institute of Nuclear Physics, Novosibirsk, and Chair of Theoretical Physics at Novosibirsk University. Dr. Khriplovich is a Corresponding Member of the Russian Academy of Sciences. He has been awarded the Dirac Medal ``For the advancement of theoretical physics'' by University of New South Wales, Sydney, Australia, and the Pomeranchuk Prize ``For outstanding contribution to the understanding the properties of the standard model, especially for illuminating work on weak and strong interactions of quarks'' by the Institute of Theoretical and Experimental Physics, Moscow, Russia.

Wittgenstein's aphoristic style holds great charm, but also a great danger: the reader is apt to glean too much from a single fragment and too little from the fragments as a whole. In my first confron tations with the Philosophical Investigations I was such a reader, and so, it turned out, were most of the writers on Wittgenstein's later philosophy. Wittgenstein's remarkable ability to bring together many facets of his thought in one fragment is fully exploited in the critical literature; but hardly any attention is paid to the connection with other fragments, let alone to the many hitherto unpublished manuscripts of which the Philosophical Investigations is the final product. The result of this fragmentary and ahistorical approach to Wittgenstein's later work is a host of contradictory interpretations. What Wittgenstein really wanted to say remains insufficiently clear. Opinions are also strongly divided about the value of his work. Some authors have been encouraged by his aphorisms and rhetorical questions to dismiss the whole Cartesian tradition or to halt new movements in linguistics or psychology; others, exasperated, reject his philo sophy as anti-scientific conceptual conservatism. After consulting unpublished notebooks and manuscripts which Wittgenstein wrote between 1929 and 1951, I became a very different reader. Wittgenstein turned out to be a kind of Leonardo da Vinci, who pursued a form from which every sign of chisel ling, every attempt at improvement, had been effaced.

Man's New Perspective on the Cosmos

The Physics of Heaven and Earth

Determination of Space's Shape Inside Space-time Using an Euclidean Model of Relativity

General Relativity

Screwfang and Crumblecrutch

On Right and Wrong

Explains the principles of relativity, profiling leading minds such as Albert Einstein, Brian Greene, and Stephen Hawking to simplify their theories on time dilation, extra dimensions, and relative motion.

This book is an introduction to Lagrangian mechanics, starting with Newtonian physics and proceeding to topics such as relativistic Lagrangian fields and Lagrangians in General Relativity, electrodynamics, Gauge theory, and relativistic gravitation. The mathematical notation used is introduced and explained as the book progresses, so it can be understood by students at the undergraduate level in physics or applied mathmatics, yet it is rigorous enough to serve as an introduction to the mathematics and concepts required for courses in relativistic quantum field theory and general relativity.

Inside Relativity

The Sciences: Not What We Believe but What We Really Know