A General Relativity Workbook Pomona College

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Six Ideas that Shaped Physics World Scientific Publishing Company
Written in an clear and informal style, this text explores the most accessible of the 20th century revolutions in physics. It allows readers to build up physical intuition for what is going on, before presenting concise mathematical descriptions. It contains many applications, ten appendices, and numerous illustrations, examples and problems.
General Relativity and the Einstein Equations CRC Press
An Introduction to Quantum Field Theory is a textbook intended for the graduate physics course covering relativistic quantum mechanics, quantum electrodynamics, and Feynman diagrams. The authors make these subjects accessible through carefully worked examples illustrating the technical aspects of the subject, and intuitive explanations of what is going on behind the mathematics. After presenting the basics of quantum electrodynamics, the authors discuss the theory of renormalization and its relation to statistical mechanics, and introduce the renormalization group. This discussion sets the stage for a discussion of the physical principles that underlie the fundamental interactions of elementary particle physics and their description by gauge field theories.
Special Relativity McGraw-Hill Science, Engineering & Mathematics
This textbook develops general relativity and its associated mathematics from a minimum of prerequisites, leading to a physical understanding of the theory in some depth.
Core Principles of Special and General Relativity American Mathematical Soc.
This primer brilliantly exposes concepts related to special and general relativity for the absolute beginner. It can be used either as an introduction to the subject at a high school level or as a useful compass for undergraduates who want to move the first steps towards Einstein's theories. The book is enhanced throughout with many useful exercises and beautiful illustrations to aid understanding. The topics covered include: Lorentz transformations, length contraction and time dilation, the twin paradox (and other paradoxes), Minkowski spacetime, the

Einstein equivalence principle, curvature of space and spacetime, geodesics, parallel transport, Einstein’s equations of general relativity, black holes, wormholes, cosmology, gravitational waves, time machines, and much more.

Modern Classical Mechanics American Mathematical Soc.

First there was Edwin A. Abbott's remarkable Flatland, published in 1884, and one of the all-time classics of popular mathematics. Now, from mathematician and accomplished science writer Ian Stewart, comes what Nature calls "a superb sequel." Through larger-than-life characters and an inspired story line, Flatterland explores our present understanding of the shape and origins of the universe, the nature of space, time, and matter, as well as modern geometries and their applications. The journey begins when our heroine, Victoria Line, comes upon her great-great-grandfather A. Square's diary, hidden in the attic. The writings help her to contact the Space Hopper, who tempts her away from her home and family in Flatland and becomes her guide and mentor through ten dimensions. In the tradition of Alice in Wonderland and The Phantom Toll Booth, this magnificent investigation into the nature of reality is destined to become a modern classic.

Introduction to General Relativity Cambridge University Press

Second edition of a widely-used textbook providing the first step into general relativity for undergraduate students with minimal mathematical background.

100 Years of Math Milestones: The Pi Mu Epsilon Centennial Collection World Scientific

Terrorism, mass uprisings, and political extremism are in the news every day. It is no coincidence that these phenomena come together at the beginning of a new era. Radicals, Revolutionaries, and Terrorists provides a comprehensive survey of the intersection of radical social movements and political violence. The book considers eight essential questions for understanding radicalism, including its origins, dynamics, and outcomes. Ranging across the globe from the 1500s to the present, the book examines cases as diverse as nineteenth-century anarchists, the Nazis, Che Guevara, the Weather Underground, Chechen insurgents, the Earth Liberation Front, Al-Qaeda, and the Arab Spring. Throughout, Colin J. Beck connects these cases to key social movements literature to demonstrate how using multiple areas of research results in better explanations. Radicals, Revolutionaries, and Terrorists is an essential companion for understanding the challenges facing governments and societies today. Its engaging style and original approach make it indispensable for students and scholars across the social sciences who are interested in social movements.

Flatterland Springer Science & Business Media

This book is not about poetry; it is simply a book to read while one relieves him or herself in the latrine, bathroom, head, or toilet, while taking a crap, dropping a stool, pinching a loaf, dropping the kids off at the lake, I could go on, but I am sure you get the picture. There are quotes from the stalls of many bathroom walls found all over the world. Now since I am male, I did not have a chance to visit many, if any, female bathrooms (sorry, ladies), so I do not have many quotes from said places. Some subject material may be offensive. Please read with cautious trepidation. Some are personal quotes, things that pop into my brain at any given moment. Sometimes these thoughts are followed by bouts of laughter that cause people that are standing near me to think that I am strange. They usually react by walking away fast. But I decided to add these thoughts to Bathroom Poetry anyways. Some quotes are famous and semifamous quotes. Some are unknown author quotes. Many of the quotes were found on the stalls of bathrooms from all over the globe. I have collected many quotes from memory during my travels around the world while serving twenty-one years in the United States Navy. This book is meant for entertainment value only. Any words of wisdom gleaned while reading this book is pure shit-house luck.

General Relativity University Science Books

This book provides an accessible, yet thorough, introduction to special and general relativity, crafted and class-tested over many years of teaching. Suitable for advanced undergraduate and graduate students, this book provides clear descriptions of how to approach the mathematics and physics involved. It is also contains the latest exciting developments in the field, including dark energy, gravitational waves, and frame dragging. The table of contents has been carefully developed in consultation with a large number of instructors teaching courses worldwide, to ensure its wide applicability to modules on relativity and gravitation. Features: A clear, accessible writing style, presenting a sophisticated approach to the subject, that remains suitable for advanced undergraduate students and above Class-tested over many years To be accompanied by a partner volume on ‘Advanced Topics’ for students to further extend their learning

Radicals, Revolutionaries, and Terrorists University Science Books

"This volume is one of six that together comprise the text materials for Six Ideas That Shaped Physics, a unique approach to the two- or three-semester calculusbased introductory physics course. I have designed this curriculum (for which these volumes only serve as the text component) to support an introductory course that combines three elements: Inclusion of 20th-century physics topics, A thoroughly 21st-century perspective on even classical topics, and Support for a student-centered and active-learning-based classroom"--

General Relativity John Wiley & Sons

SIX IDEAS THAT SHAPED PHYSICS is the 21st century's alternative to traditional, encyclopedic textbooks. Thomas Moore designed SIX IDEAS to teach students: --to apply basic physical principles to realistic situations --to solve realistic problems --to resolve contradictions between their preconceptions and the laws of physics --to organize the ideas of physics into an integrated hierarchy

Testimonios: Stories of Latinx and Hispanic Mathematicians CRC Press

A gentle introduction to general relativity, striking a balance between ease of use and precision, for all undergraduates in physics.

The Trouble with Physics Princeton University Press

In 1962, the philosopher Richard Taylor used six commonly accepted presuppositions to imply that human beings have no control over the future. David Foster Wallace not only took issue with Taylor's methods, but also noted a semantic trick at the heart of Taylor's argument. Fate, Time, and Language presents Wallace's critique of Taylor's work. Wallace's thesis reveals his great skepticism of abstract thinking made to function as a negation of something more genuine and real. He was especially suspicious of the cerebral aestheticism of modernism and the clever gimmickry of postmodernism, which abandoned "the very old traditional human verities that have to do with spirituality and emotion and community." As Wallace rises to meet the challenge to free will presented by Taylor, we witness the developing perspective of this major novelist and his struggle to establish logical ground for his convictions. This volume, edited by Steven M. Cahn and Maureen Eckert, reproduces Taylor's original article and other works on fatalism cited by Wallace. James Ryerson's introduction connects Wallace's early philosophical work to the themes and explorations of his later fiction, and Jay Garfield supplies a critical biographical epilogue.

Quirky Quantum Concepts Cambridge University Press
Testimonios brings together first-person narratives from the vibrant, diverse, and complex Latinx and Hispanic mathematical community. Starting with childhood and family, the authors recount their own individual stories, highlighting their upbringing, education, and career paths. Their particular stories, told in their own voices, from their own perspectives, give visibility to some of the experiences of Latinx/Hispanic mathematicians. Testimonios seeks to inspire the next generation of Latinx and Hispanic mathematicians by featuring the stories of people like them, holding a mirror up to our own community. It also aims to provide a window for mathematicians (and aspiring mathematicians) from all ethnicities, with the hope of inspiring a better understanding of the diversity of the mathematical community.
Six Ideas that Shaped Physics Cambridge University Press
Presents a supplement providing an introduction to topics in special relativity. This work is intended for a general physics class, or advanced course in special relativity.
Fate, Time, and Language CRC Press
In Douglas Preston's Blasphemy, the world's biggest supercollider, locked in an Arizona mountain, was built to reveal the secrets of the very moment of creation: the Big Bang itself. The Torus is the most expensive machine ever created by humankind, run by the world's most powerful supercomputer. It is the brainchild of Nobel Laureate William North Hazelius. Will the Torus divulge the mysteries of the creation of the universe? Or will it, as some predict, suck the earth into a mini black hole? Or is the Torus a Satanic attempt, as a powerful televangelist decries, to challenge God Almighty on the very throne of Heaven? Twelve scientists under the leadership of Hazelius are sent to the remote mountain to turn it on, and what they discover must be hidden from the world at all costs. Wyman Ford, ex-monk and CIA operative, is tapped to wrest their secret, a secret that will either destroy the world...or save it. The countdown begins... At the Publisher's request, this title is being sold without Digital Rights Management Software (DRM) applied.
The Einstein Theory of Relativity Macmillan
Sample Text
Bathroom Poetry McGraw-Hill Science, Engineering & Mathematics
General Relativity has passed all experimental and observational tests to model the motion of isolated bodies with strong gravitational fields, though the mathematical and numerical study of these motions is still in its infancy. It is believed that General Relativity models our cosmos, with a manifold of dimensions possibly greater than four and debatable topology opening a vast field of investigation for mathematicians and physicists alike. Remarkable conjectures have been proposed, many results have been obtained but many fundamental questions remain open. In this monograph, aimed at researchers in mathematics and physics, the author overviews the basic ideas in General Relativity, introduces the necessary mathematics and discusses some of the key open questions in the field.
Standard Deviations University of Chicago Press
This book is an outgrowth of a collection of 100 problems chosen to celebrate the 100th anniversary of the undergraduate math honor society Pi Mu Epsilon. Each chapter describes a problem or event, the progress made, and connections to entries from other years or other parts of mathematics. In places, some knowledge of analysis or algebra, number theory or probability will be helpful. Put together, these problems will be appealing and accessible to energetic and enthusiastic math majors and aficionados of all stripes. Stephan Ramon Garcia is WM Keck Distinguished Service Professor and professor of mathematics at Pomona College. He is the author of four books and over eighty research articles in operator theory, complex analysis, matrix analysis, number theory, discrete geometry, and other fields. He has coauthored dozens of articles with students, including one that appeared in The Best Writing on Mathematics: 2015. He is on the editorial boards of Notices of the AMS, Proceedings of the AMS, American Mathematical Monthly, Involve, and Annals of Functional Analysis. He received four NSF research grants as principal investigator and five teaching awards from three different institutions. He is a fellow of the American Mathematical Society and was the inaugural recipient of the Society's Dolciani Prize for Excellence in Research. Steven J. Miller is professor of mathematics at Williams College and a visiting assistant professor at Carnegie Mellon University. He has published five books and over one hundred research papers, most with students, in accounting, computer science, economics, geophysics, marketing, mathematics, operations research, physics, sabermetrics, and statistics. He has served on numerous editorial boards, including the Journal of Number Theory, Notices of the AMS, and the Pi Mu Epsilon Journal. He is active in enrichment and supplemental curricular initiatives for elementary and secondary mathematics, from the Teachers as Scholars Program and VCTAL (Value of Computational Thinking Across Grade Levels), to numerous math camps (the Eureka Program, HCSSiM, the Mathematics League International Summer Program, PROMYS, and the Ross Program). He is a fellow of the American Mathematical Society, an at-large senator for Phi Beta Kappa, and a member of the Mount Greylock Regional School Committee, where he sees firsthand the challenges of applying mathematics.
Six Ideas That Shaped Physics: Unit Q - Particles Behaves Like Waves AuthorHouse
Dance intersects with ethnicity in a powerful variety of ways and at a broad set of venues. Dance practices and attitudes about ethnicity have sometimes been the source of outright discord, as when African Americans were - and sometimes still are - told that their bodies are 'not right' for ballet, when Anglo Americans painted their faces black to perform in minstrel shows, when 19th century Christian missionaries banned the performance of particular native dance traditions throughout much of Polynesia, and when the Spanish conquistadors and church officials banned sacred Aztec dance rituals. More recently, dance performances became a locus of ethnic disunity in the former Yugoslavia as the Serbs of Bosnia attended dance concerts but only applauded for the Serbian dances, presaging the violent disintegration of that failed state. The Oxford Handbook of Dance and Ethnicity brings together scholars from across the globe in an investigation of what it means to define oneself in an ethnic category and how this category is performed and represented by dance as an ethnicity. Newly-commissioned for the volume, the chapters of the book place a reflective lens on dance and its context to examine the role of dance as performed embodiment of the historical moments and associated lived identities. In bringing modern dance and ballet into the conversation alongside forms more often considered ethnic, the chapters ask the reader to contemplate previous categories of folk, ethnic, classical, and modern. From this standpoint, the book considers how dance maintains, challenges, resists or in some cases evolves new forms of identity based on prior categories. Ultimately, the goal of the book is to acknowledge the depth of research that has been undertaken and to promote continued research and conceptualization of dance and its role in the creation of ethnicity. Dance and ethnicity is an increasingly active area of scholarly inquiry in dance studies and ethnomusicology alike and the need is great for serious scholarship to shape the contours of these debates. The Oxford Handbook of Dance and Ethnicity provides an authoritative and up-to-date survey of original

research from leading experts which will set the tone for future scholarly conversation.