Astronomy A Physical Perspective Solutions Manual

Physical Oceanography and ClimateWorld Geography Student EditionAstronomyFuture Space Problems and Their SolutionsDesigning Security Architecture SolutionsThe Cosmic PerspectiveAstronomy MethodsCMOS Test and EvaluationFoundations of AstronomyThe Cosmic PerspectiveAir Pollution and Global WarmingExact Solutions of Einstein's Field EquationsAstronomy: A Physical PerspectiveFoundations of AstrophysicsAstrophysics ProcessesAn Introduction to the Sun and StarsArchitecting Enterprise Blockchain SolutionsPsychological Science Under ScrutinySolutions for Climate Change Challenges in the Built EnvironmentModelling Nature-based SolutionsInvestigating AstronomyThe Physical UniverseGeneral Relativity and GravitationA Kinetic View of Statistical PhysicsAstronomyMathematics for PhysicistsCosmological PhysicsThe Large Scale Structure of Space-TimeThe Mechanical UniversePhysical Foundations of CosmologyClassical MechanicsCytoskeletal MechanicsAstronomy: A Physical PerspectiveSolutions Manual Astronomy a Physical PerspectiveAstronomyFoundations of AstronomyMedicine for MankindOrigins of Life in the UniverseEmu DreamingIntroduction to the Physics of Waves

Physical Oceanography and Climate

World Geography Student Edition

CMOS Test and Evaluation: A Physical Perspective is a single source for an integrated view of test and data analysis methodology for CMOS products, covering circuit sensitivities to MOSFET characteristics, impact of silicon technology process variability, applications of embedded test structures and sensors, product yield, and reliability over the lifetime of the product. This book also covers statistical data analysis and visualization techniques, test equipment and CMOS product specifications, and examines product behavior over its full voltage, temperature and frequency range.

Astronomy

Keeping geography relevant and up-to-date through country-by-country coverage and online updates, this standards-based program helps students understand how geography affects their lives. The text's strong maps and visuals present key concepts in human and physical geography, while step-by-step skills instruction prepares students for success on assessment. An award-winning video collection helps students develop mental maps of their world through maps, animation, live footage, and case studies. World-class visuals that provide a dramatic overview of each region Hands-on activities in the Geographer's Apprentice Activity Pack that explore the world's regions through maps, data, and primary sources Do-it-yourself skills that take students beyond simple tasks to help them think like geographers An award winning video collection that helps students develop mental maps of the world

Future Space Problems and Their Solutions

Balancing concise mathematical analysis with real-world examples and practical applications, to provide a clear and approachable introduction to wave phenomena.

Designing Security Architecture Solutions

FOUNDATIONS OF ASTRONOMY brings science to life. With this newly revised Eleventh Edition of FOUNDATIONS OF ASTRONOMY, best-selling authors Mike Seeds and Dana Backman strive to help students use astronomy to understand science--and use science to understand what we are. Fascinating, engaging, and extremely visual, this text emphasizes the scientific method throughout as it guides students to answer two fundamental questions: What are we? And how do we know? In discussing the interplay between evidence and hypothesis, the authors provide not only fact but also a conceptual framework for understanding the logic of science. The Eleventh Edition addresses the newest developments and latest discoveries in the exciting study of astronomy, including information to emphasize observations over the entire electromagnetic spectrum; new data on star formation and stellar structure; new insight on global warming and ozone depletion; updated information on the Kuiper belt and dwarf planets; and more. Whether you choose to assign homework in an online environment, give your students access to an affordable and interactive online text, or do both, the new FOUNDATIONS OF ASTRONOMY Online Version is the ideal solution for your course needs, giving your students Web-based access to a digital version of the text. In addition, the new online Enhanced WebAssign homework management system enables you to easily assign and manage homework online. Important Notice: Media content referenced within the product description or the product text may not be available in the ebook version.

The Cosmic Perspective

Astronomy is written in clear non-technical language, with the occasional touch of humor and a wide range of clarifying illustrations. It has many analogies drawn from everyday life to help non-science majors appreciate, on their own terms, what our modern exploration of the universe is revealing. The book can be used for either aone-semester or two-semester introductory course (bear in mind, you can customize your version and include only those chapters or sections you will be teaching.) It is made available free of charge in electronic form (and low cost in printed form) to students around the world. If you have ever thrown up your hands in despair over the spiraling cost of astronomy textbooks, you owe your students a good look at this one. Coverage and Scope Astronomy was written, updated, and reviewed by a broad range of astronomers and astronomy educators in a strong community effort. It is designed to meet scope and sequence requirements of introductory astronomy courses nationwide. Chapter 1: Science and the Universe: A Brief Tour Chapter 2: Observing the Sky: The Birth of Astronomy Chapter 3: Orbits and Gravity Chapter 4: Earth, Moon, and Sky Chapter 5: Radiation and Spectra Chapter 6: Astronomical Instruments Chapter 7: Other Worlds: An Introduction to the Solar System Chapter 8: Earth as a Planet Chapter 9: Cratered

Worlds Chapter 10: Earthlike Planets: Venus and Mars Chapter 11: The Giant Planets Chapter 12: Rings, Moons, and Pluto Chapter 13: Comets and Asteroids: Debris of the Solar System Chapter 14: Cosmic Samples and the Origin of the Solar System Chapter 15: The Sun: A Garden-Variety Star Chapter 16: The Sun: A Nuclear Powerhouse Chapter 17: Analyzing Starlight Chapter 18: The Stars: A Celestial Census Chapter 19: Celestial Distances Chapter 20: Between the Stars: Gas and Dust in Space Chapter 21: The Birth of Stars and the Discovery of Planets outside the Solar System Chapter 22: Stars from Adolescence to Old Age Chapter 23: The Death of Stars Chapter 24: Black Holes and Curved Spacetime Chapter 25: The Milky Way Galaxy Chapter 26: Galaxies Chapter 27: Active Galaxies, Quasars, and Supermassive Black Holes Chapter 28: The Evolution and Distribution of Galaxies Chapter 29: The Big Bang Chapter 30: Life in the Universe Appendix A: How to Study for Your Introductory Astronomy Course Appendix B: Astronomy Websites, Pictures, and Apps Appendix C: Scientific Notation Appendix D: Units Used in Science Appendix E: Some Useful Constants for Astronomy Appendix F: Physical and Orbital Data for the Planets Appendix G: Selected Moons of the Planets Appendix H: Upcoming Total Eclipses Appendix I: The Nearest Stars, Brown Dwarfs, and White Dwarfs Appendix J: The Brightest Twenty Stars Appendix K: The Chemical Elements Appendix L: The Constellations Appendix M: Star Charts and Sky Event Resources

Astronomy Methods

New edition of introductory textbook, ideal for students taking a course on air pollution and global warming, whatever their background. Comprehensive introduction to the history and science of the major air pollution and climate problems facing the world today, as well as energy and policy solutions to those problems.

CMOS Test and Evaluation

John Taylor has brought to his most recent book, ClassicalMechanics, all of the clarity and insight that made his Introduction toError Analysisa best-selling text. ClassicalMechanicsis intended for students who have studied some mechanics in anintroductory physics course, such as "freshman physics." With unusual clarity, the book covers most of the topics normally found in books at this level, includingconservation laws, oscillations, Lagrangian mechanics, two-body problems, non-inertial frames, rigid bodies, normal modes, chaos theory,Hamiltonian mechanics, and continuum mechanics. A particular highlight is the chapter on chaos, which focuses on a fewsimple systems, to give a truly comprehensible introduction to theconcepts that we hear so much about. At the end of each chapter is a large selection of interesting problemsfor the student, 744 in all, classified by topic and approximate difficulty, and ranging fromsimple exercises to challenging computer projects. Adopted by more than 450 colleges anduniversities in the USA and Canada and translated into six languages, Taylor's Classical Mechanicsisa thorough and very readable introduction to a subject that is four hundredyears old but as exciting today as ever. Theauthor manages to convey that excitement as well as deep understanding and insight. Ancillaries A detailed Instructors' Manual is available for adopting professors. Art from the book may be downloaded by adopting professors.

Foundations of Astronomy

A paperback edition of a classic text, this book gives a unique survey of the known solutions of Einstein's field equations for vacuum, Einstein-Maxwell, pure radiation and perfect fluid sources. It introduces the foundations of differential geometry and Riemannian geometry and the methods used to characterize, find or construct solutions. The solutions are then considered, ordered by their symmetry group, their algebraic structure (Petrov type) or other invariant properties such as special subspaces or tensor fields and embedding properties. Includes all the developments in the field since the first edition and contains six completely new chapters, covering topics including generation methods and their application, colliding waves, classification of metrics by invariants and treatments of homothetic motions. This book is an important resource for graduates and researchers in relativity, theoretical physics, astrophysics and mathematics. It can also be used as an introductory text on some mathematical aspects of general relativity.

The Cosmic Perspective

Building on a long tradition of effective pedagogy and comprehensive coverage, The Cosmic Perspective, Seventh Edition provides a thoroughly engaging and up-to-date introduction to astronomy for non-science majors. The text provides a wealth of features that enhance skill-building, including new group work exercises that help you retain concepts longer and build communication skills for the future. The Seventh Edition has also been fully updated to include the latest astronomical observations, results from recent space missions, research, and theoretical developments that inform our understanding of the early universe. Two volumes of this text are also available: The Cosmic Perspective: The Solar System, Seventh Edition (includes Chapters 1—13, 24) The Cosmic Perspective: Stars, Galaxies, and Cosmology, Seventh Edition (includes Chapters 1—6, S2—S4, 14—24)

Air Pollution and Global Warming

"This is a truly astonishing book, invaluable for anyone with an interest in astronomy." Physics Bulletin "Just the thing for a first year university science course." Nature "This is a beautiful book in both concept and execution." Sky & Telescope

Exact Solutions of Einstein's Field Equations

The art and traditions of Aboriginal Australia draw on 40,000 years experience of gazing into the richness of unpolluted skies from pristine lands. They include the "emu in the sky" constellation of dark clouds, and stories about the Sun, Moon, and the Seven Sisters. Several Aboriginal groups use the rising and setting of particular stars to show when to harvest a food source. Some explain how the tides are caused by the Moon, and even explain eclipses as a conjunction of the Sun and Moon. This book explores the mystical Aboriginal astronomical stories and traditions, and the way in which they are used for practical applications such as navigation and harvesting. It describes the journey of exploration that's currently

opening Western eyes to this treasury of ancient Aboriginal knowledge, and is written by two active researchers in the field: Prof. Ray Norris (an astrophysicist with CSIRO, and an Adjunct Professor at the Dept. of Indigenous Studies, Macquarie University), and his wife Cilla. In this book, Ray and Cilla bring you the results of their 6-year quest to research Aboriginal Astronomy, including: * uncovering little-known manuscripts, * visiting Aboriginal sites throughout Australia, * writing down stories from ancient communities. Few outsiders understand the depth and complexity of Aboriginal cultures. This book will give you a glimpse that will change your ideas about Aboriginal society.

Astronomy: A Physical Perspective

Foundations of Astrophysics

Astronomy Methods is an introduction to basic practical tools, methods and phenomena that underlie quantitative astronomy. Taking a technical approach, the author covers a rich diversity of topics across all branches of astronomy, from radio to gamma-ray wavelengths. Clear, systematic presentations of the topics are accompanied by diagrams and problem sets. Written for undergraduates and graduate students, this book contains a wealth of information that is required for the practice and study of quantitative and analytical astronomy and astrophysics.

Astrophysics Processes

An Introduction to the Sun and Stars

An elementary university text about stars for introductory courses in astronomy and astrophysics.

Architecting Enterprise Blockchain Solutions

This book presents a full spectrum of views on current approaches to modeling cell mechanics. The authors come from the biophysics, bioengineering and physical chemistry communities and each joins the discussion with a unique perspective on biological systems. Consequently, the approaches range from finite element methods commonly used in continuum mechanics to models of the cytoskeleton as a cross-linked polymer network to models of glassy materials and gels. Studies reflect both the static, instantaneous nature of the structure, as well as its dynamic nature due to polymerization and the full array of biological processes. While it is unlikely that a single unifying approach will evolve from this diversity, it is the hope that a better appreciation of the various perspectives will lead to a highly coordinated approach to exploring the essential problems and better discussions among investigators with differing views.

Psychological Science Under Scrutiny

Einstein's General Theory of Relativity leads to two remarkable predictions: first,

that the ultimate destiny of many massive stars is to undergo gravitational collapse and to disappear from view, leaving behind a 'black hole' in space; and secondly, that there will exist singularities in space-time itself. These singularities are places where space-time begins or ends, and the presently known laws of physics break down. They will occur inside black holes, and in the past are what might be construed as the beginning of the universe. To show how these predictions arise, the authors discuss the General Theory of Relativity in the large. Starting with a precise formulation of the theory and an account of the necessary background of differential geometry, the significance of space-time curvature is discussed and the global properties of a number of exact solutions of Einstein's field equations are examined. The theory of the causal structure of a general space-time is developed, and is used to study black holes and to prove a number of theorems establishing the inevitability of singualarities under certain conditions. A discussion of the Cauchy problem for General Relativity is also included in this 1973 book.

Solutions for Climate Change Challenges in the Built Environment

A comprehensive and authoritative introduction to contemporary cosmology for advanced undergraduate and graduate students.

Modelling Nature-based Solutions

The most fascinating questions on the history of the Universe are answered in this text.

Investigating Astronomy

The emergence, existence and development of the surrounding world, both on Earth and throughout the universe, are due to the gravitational interactions of many bodies. This book is devoted to the calculation of bodies movements in various cases of interaction that are relevant now and in the future. They are developed for the free access of the Galactica system, which is designed to provide the numerical solution for problems of the gravitational interaction of N-bodies. It tackles a whole range of problems: The optimal motion of the spacecraft, the evolution of the solar system for 100 million years, the influence of the Sun on Mercurys perihelion, the motion of near-Earth asteroids, the evolution of Earth's rotation axis, etc. As a result of solving a number of problems, new knowledge about our world was obtained. The optimal trajectory of the spacecraft approaching the Sun is determined by numerical integration of the equations of motion for spacecraft, planets, the Sun, and the Moon. Exact solutions to the problem of the Newtonian gravitational interaction of N material points moving around N2 concentric circular orbits are reviewed. Each circular orbit contains N3 located bodies and the body system rotates as an entity. Solutions in various forms were obtained. A computer program has been developed. Structures comprising up to one million bodies have been calculated. The Galactica system is used for computing movements of two asteroids: Apophis and 1950DA. The evolution of their movement over a span of 1,000 years is investigated. The moments of their

closest passages near the Earth are defined. The different ways of asteroid trajectory transformations into orbits of the Earths satellites are considered. This book proves that the rate of Mercurys perihelion rotation and relatively motionless space coincides with the Newtonian interaction of the planets and the oblate Sun. The issues connected with the Astronomical Theory of Ice Ages from the perspective of celestial mechanics are examined. Differential equations of rotational motion are solved with the help of the numerical method without simplification. The evolution of the Earth's axis was examined, and the periods of its oscillations that coincide with the observed ones were obtained. The calculations for a hundred thousand years demonstrate significant oscillation of the Earths axis. The oscillations of the Earths axis result in such oscillations of insolation that explain the paleoclimate changes. The exact solution to the problem, in which the bodies are uniformly distributed over a sphere, were obtained; they move experiencing no mutual collisions. The problem solution allows the formation of several planets for instance, one hundred planets resembling the Earth and moving under identical conditions with respect to the Sun. The latter possibility opens a way toward unrestricted progress for mankind. The book describes all the theoretical, practical issues and the Galactica system manual so that even a novice researcher could use it in his/her works.

The Physical Universe

The first guide to tackle security architecture at the softwareengineering level Computer security has become a critical business concern, and, assuch, the responsibility of all IT professionals. In thisgroundbreaking book, a security expert with AT&T Business'srenowned Network Services organization explores system securityarchitecture from a software engineering perspective. He explainswhy strong security must be a guiding principle of the developmentprocess and identifies a common set of features found in mostsecurity products, explaining how they can and should impact thedevelopment cycle. The book also offers in-depth discussions ofsecurity technologies, cryptography, database security, applicationand operating system security, and more.

General Relativity and Gravitation

Aimed at graduate students, this book explores some of the core phenomena in non-equilibrium statistical physics. It focuses on the development and application of theoretical methods to help students develop their problem-solving skills. The book begins with microscopic transport processes: diffusion, collision-driven phenomena, and exclusion. It then presents the kinetics of aggregation, fragmentation and adsorption, where the basic phenomenology and solution techniques are emphasized. The following chapters cover kinetic spin systems, both from a discrete and a continuum perspective, the role of disorder in non-equilibrium processes, hysteresis from the non-equilibrium perspective, the kinetics of chemical reactions, and the properties of complex networks. The book contains 200 exercises to test students' understanding of the subject. A link to a website hosted by the authors, containing supplementary material including solutions to some of the exercises, can be found at www.cambridge.org/9780521851039.

A Kinetic View of Statistical Physics

This fully revised and updated text is a comprehensive introduction to astronomical objects and phenomena. By applying some basic physical principles to a variety of situations, students will learn how to relate everyday physics to the astronomical world. Starting with the simplest objects, the text contains explanations of how and why astronomical phenomena occur, and how astronomers collect and interpret information about stars, galaxies and the solar system. The text looks at the properties of stars, star formation and evolution; neutron stars and black holes; the nature of galaxies; and the structure of the universe. It examines the past, present and future states of the universe; and final chapters use the concepts that have been developed to study the solar system, its formation; the possibility of finding other planetary systems; and the search for extraterrestrial life. This comprehensive text contains useful equations, chapter summaries, worked examples and end-of-chapter problem sets.

Astronomy

Inflationary cosmology has been developed over the last twenty years to remedy serious shortcomings in the standard hot big bang model of the universe. This textbook, first published in 2005, explains the basis of modern cosmology and shows where the theoretical results come from. The book is divided into two parts; the first deals with the homogeneous and isotropic model of the Universe, the second part discusses how inhomogeneities can explain its structure. Established material such as the inflation and quantum cosmological perturbation are presented in great detail, however the reader is brought to the frontiers of current cosmological research by the discussion of more speculative ideas. An ideal textbook for both advanced students of physics and astrophysics, all of the necessary background material is included in every chapter and no prior knowledge of general relativity and quantum field theory is assumed.

Mathematics for Physicists

This innovative physics textbook intended for science and engineering majors develops classical mechanics from a historical perspective. The presentation of the standard course material includes a discussion of the thought processes of the discoverers and a description of the methods by which they arrived at their theories. However the presentation proceeds logically rather than strictly chronologically, so new concepts are introduced at the natural moment. The book assumes a familiarity with calculus, includes a discussion of rigid body motion, and contains numerous thought-provoking problems. It is largely based in content on The Mechanical Universe: Introduction to Mechanics and Heat, a book designed in conjunction with a tele-course to be offered by PBS in the Fall of 1985. The advanced edition, however, does not coincide exactly with the video lessons, contains additional material, and develops the fundamental ideas introduced in the lower-level edition to a greater degree.

Cosmological Physics

An engaging and accessible textbook focusing on climate dynamics from the perspective of the ocean, specifically interactions between the atmosphere and ocean. It describes the fundamental physics and dynamics governing the behaviour of the ocean, and provides numerous end-of-chapter questions and access to online data sets.

The Large Scale Structure of Space-Time

This book will help decision makers model nature-based solutions to the complex problem of sustainable development, locally and globally.

The Mechanical Universe

This guide to Astronomy includes coverage of the search for extrasolar planets, a discussion of the accelerating universe, expanded coverage of gamma ray bursts and continuing coverage of the Galileo mission to Jupiter. There are Concept Check discussion questions integrated throughout each chapter, with answers included in the appendix, aimed at aiding self-assessment. These critical-thinking questions test conceptual understanding of the material just presented and help place it in a broader context.

Physical Foundations of Cosmology

The multi-disciplinary perspective provided here offers a strategic view on built environment issues and improve understanding of how built environment activities potentially induce global warming and climate change. It also highlights solutions to these challenges. Solutions to Climate change Challenges in the Built Environment helps develop an appreciation of the diverse themes of the climate change debate across the built environment continuum. A wide perspective is provided through contributions from physical, environmental, social, economic and political scientists. This strategic view on built environment issues will be useful to researchers as well as policy experts and construction practitioners wanting a holistic view. This book clarifies complex issues around climate change and follows five main themes: climate change experiences; urban landscape development; urban management issues; measurement of impact; and the future. Chapters are written by eminent specialists from both academic and professional backgrounds. The main context for chapters is the developed world but the discussion is widened to incorporate regional issues. The book will be valuable to researchers and students in all the built environment disciplines, as well as to practitioners involved with the design, construction and maintenance of buildings, and government organisations developing and implementing climate change policy.

Classical Mechanics

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.

Cytoskeletal Mechanics

Explore spectacular advances in contemporary physics with this unique celebration of the centennial of Einstein's discovery of general relativity.

Astronomy: A Physical Perspective

The year is 2084, and the U.S. has so thoroughly embraced big government that the Wapols (Washington politicians) and their army of pubrats (public bureaucrats) monitor your diet, your finances, even your sex life. But what happens when an omni-present government becomes impotent? In the spirit of Orwell's 1984 and Animal Farm, and Rand's Atlas Shrugged, but written with the style and wit of Kurt Vonnegut, Eidam offers a humorous and thought-provoking cautionary tale against trading away our freedoms to a tech-empowered nanny-state, and asks if it's possible for mankind to become so dependent, we lose the ability to live free. When a virus threatens to wipe out all of mankind, President Poll and his D.C. cronies escape to a survival shelter leaving the rest of the world to perish. However, while the Wapols are safely locked away in their bubble, a reclusive tech genius does what all the experts said was impossible: he develops a treatment that will save mankind from extinction. Only, he won't release it unconditionally; he wants to make sure mankind is worth saving first. Opting to remain anonymous, the man enlists Clyde Sexler, a sixteen-year-old social reject, to issue his demands, and Clyde finds himself playing a starring role in mankind's salvation. But, after first enjoying his newfound power and fame, Clyde starts to worry about how far the recluse is willing to go to reboot civilization. With the Wapols busy fighting for control of their bubble, President Poll taking advice from his talking toilet, and the rest of Washington concerned only with optics and clinging to power, Clyde might be mankind's last hope. Can he save us from certain deathor worse?

Solutions Manual Astronomy a Physical Perspective

This textbook is a comprehensive introduction to the key disciplines of mathematics - linear algebra, calculus, and geometry - needed in the undergraduate physics curriculum. Its leitmotiv is that success in learning these subjects depends on a good balance between theory and practice. Reflecting this belief, mathematical foundations are explained in pedagogical depth, and computational methods are introduced from a physicist's perspective and in a timely manner. This original approach presents concepts and methods as inseparable entities, facilitating in-depth understanding and making even advanced mathematics tangible. The book guides the reader from high-school level to advanced subjects such as tensor algebra, complex functions, and differential geometry. It contains numerous worked examples, info sections providing context, biographical boxes, several detailed case studies, over 300 problems, and fully worked solutions for all odd-numbered problems. An online

solutions manual for all even-numbered problems will be made available to instructors.

Astronomy

This fully revised and updated text is a comprehensive introduction to astronomical objects and phenomena. By applying some basic physical principles to a variety of situations, students will learn how to relate everyday physics to the astronomical world. The text contains useful equations, chapter summaries, worked examples and end-of-chapter problem sets. It is suitable for undergraduate students taking a first course in astronomy, and assumes a basic knowledge of physics with calculus.

Foundations of Astronomy

A contemporary and complete introduction to astrophysics for astronomy and physics majors taking a two-semester survey course.

Medicine for Mankind

Psychological Science Under Scrutiny explores a range of contemporary challenges to the assumptions and methodologies of psychology, in order to encourage debate and ground the discipline in solid science. Discusses the pointed challenges posed by critics to the field of psychological research, which have given pause to psychological researchers across a broad spectrum of sub-fields Argues that those conducting psychological research need to fundamentally change the way they think about data and results, in order to ensure that psychology has a firm basis in empirical science Places the recent challenges discussed into a broad historical and conceptual perspective, and considers their implications for the future of psychological methodology and research Challenges discussed include confirmation bias, the effects of grant pressure, false-positive findings, overestimating the efficacy of medications, and high correlations in functional brain imaging Chapters are authored by internationally recognized experts in their fields, and are written with a minimum of specialized terminology to ensure accessibility to students and lay readers

Origins of Life in the Universe

Demystify architecting complex blockchain applications in enterprise environments Architecting Enterprise Blockchain Solutions helps engineers and IT administrators understand how to architect complex blockchain applications in enterprise environments. The book takes a deep dive into the intricacies of supporting and securing blockchain technology, creating and implementing decentralized applications, and incorporating blockchain into an existing enterprise IT infrastructure. Blockchain is a technology that is experiencing massive growth in many facets of business and the enterprise. Most books around blockchain primarily deal with how blockchains are related to cryptocurrency or focus on pure blockchain development. This book teaches what blockchain technology is and offers insights into its current and future uses in high performance networks and complex ecosystems. • Provides a practical, hands-on approach • Demonstrates

the power and flexibility of enterprise blockchains such as Hyperledger and R3 Corda • Explores how blockchain can be used to solve complex IT support and infrastructure problems • Offers numerous hands-on examples and diagrams Get ready to learn how to harness the power and flexibility of enterprise blockchains!

Emu Dreaming

For two-semester courses in astronomy. Teaching the Process of Science through Astronomy Building on a long tradition of effective pedagogy and comprehensive coverage, The Cosmic Perspective, Eighth Edition provides a thoroughly engaging and up-to-date introduction to astronomy for non-science majors. This text offers a wealth of features that enhance student understanding of the process of science and actively engage students in the learning process for key concepts. The fully updated Eighth Edition includes the latest scientific discoveries, revises several subjects based on our most current understanding of the cosmos, and now emphasizes deeper understanding of the twists and turns of the process of science and the relevance of concepts to student's lives. This text is also available in two volumes, which can be purchased separately: The Cosmic Perspective: The Solar System, Eighth Edition (includes Chapters 1–13, 14, S1, 24) The Cosmic Perspective: Stars, Galaxies, and Cosmology, Eighth Edition (includes Chapters 1-3, S1, 4–6, S2–S4, 14–24) Also available as a Pearson eText or packaged with Mastering Astronomy Pearson eText is a simple-to-use, mobile-optimized, personalized reading experience that can be adopted on its own as the main course material. It lets students highlight, take notes, and review key vocabulary all in one place, even when offline. Seamlessly integrated videos and other rich media engage students and give them access to the help they need, when they need it. Educators can easily share their own notes with students so they see the connection between their eText and what they learn in class — motivating them to keep reading, and keep learning. Mastering Astronomy is the leading online homework, tutorial, and assessment system, designed to improve results by engaging students before, during, and after class with powerful content. Instructors ensure students arrive ready to learn by assigning educationally effective content before class, and encourage critical thinking and retention with in-class resources. Students can further master concepts after class through homework assignments that provide interactivity, hints and answer-specific feedback. Note: You are purchasing a standalone book; Pearson eText and Mastering Astronomy do not come packaged with this content. Students, ask your instructor for the correct package ISBN and Course ID. Instructors, contact your Pearson representative for more information. If your instructor has assigned Pearson eText as your main course material, search for: • 0135234441 / 9780135234440 Pearson eText The Cosmic Perspective, 8/e -- Access Card OR • 0135234417 / 9780135234419 Pearson eText The Cosmic Perspective, 8/e -- Instant Access If you would like to purchase both the physical text and Mastering Astronomy, search for: 0134058291 / 9780134058290 Cosmic Perspective Plus MasteringAstronomy with eText -- Access Card Package, The Package consists of: 0134059069 / 9780134059068 Cosmic Perspective, The 0134080572 / 9780134080574 MasteringAstronomy with Pearson eText -- ValuePack Access Card -- for The Cosmic Perspective 0321765184 / 9780321765185 SkyGazer 5.0 Student Access Code Card (Integrated component)

Introduction to the Physics of Waves

Bridging the gap between physics and astronomy textbooks, this book provides step-by-step physical and mathematical development of fundamental astrophysical processes underlying a wide range of phenomena in stellar, galactic, and extragalactic astronomy. The book has been written for upper-level undergraduates and beginning graduate students, and its strong pedagogy ensures solid mastery of each process and application. It contains over 150 tutorial figures, numerous examples of astronomical measurements, and 201 exercises. Topics covered include the Kepler–Newton problem, stellar structure, binary evolution, radiation processes, special relativity in astronomy, radio propagation in the interstellar medium, and gravitational lensing. Applications presented include Jeans length, Eddington luminosity, the cooling of the cosmic microwave background (CMB), the Sunyaev–Zeldovich effect, Doppler boosting in jets, and determinations of the Hubble constant. This text is a stepping stone to more specialized books and primary literature. Password-protected solutions to the exercises are available to instructors at www.cambridge.org/9780521846561.