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KEY=SOLUTIONS - SANFORD GABRIELLE

Matter and Interactions

John Wiley & Sons Matter and Interactions, 4th Edition offers a modern curriculum for introductory physics (calculus-based). It presents physics the way practicing physicists view their discipline while integrating 20th Century physics and computational physics. The text emphasizes the small number of fundamental principles that underlie the behavior of matter, and models that can explain and predict a wide variety of physical phenomena. Matter and Interactions, 4th Edition will be available as a single volume hardcover text and also two paperback volumes.

Matter and Interactions

Subatomic Physics Solutions Manual (3rd Edition)

World Scientific Publishing Company This is the solutions manual for many (particularly odd-numbered) end-of-chapter problems in Subatomic Physics, 3rd Edition by Henley and Garcia. The student who has worked on the problems will find the solutions presented here a useful check on answers and procedures.

Catalog of Copyright Entries. Third Series

1974: January-June: Index

Copyright Office, Library of Congress

A First Course in String Theory

Cambridge University Press String theory made understandable. Barton Zwiebach is once again faithful to his goal of making string theory accessible to undergraduates. He presents the main concepts of string theory in a concrete and physical way to develop intuition before formalism, often through simplified and illustrative examples. Complete and thorough in its coverage, this new edition now includes AdS/CFT correspondence and introduces superstrings. It is perfectly suited to introductory courses in string theory for students with a background in mathematics and physics. New sections cover strings on orbifolds, cosmic strings, moduli stabilization, and the string theory landscape. Now with almost 300 problems and exercises, with password-protected solutions for instructors at www.cambridge.org/zwiebach.

Basic Biotechnology

Cambridge University Press Biotechnology is one of the major technologies of the twenty-first century. Its wide-ranging, multi-disciplinary activities include recombinant DNA techniques, cloning and the application of microbiology to the production of goods from bread to antibiotics. In this new edition of the textbook Basic Biotechnology, biology and bioprocessing topics are uniquely combined to provide a complete overview of biotechnology. The fundamental principles that underpin all biotechnology are explained and a full range of examples are discussed to show how these principles are applied; from starting substrate to final product. A distinctive feature of this text are the discussions of the public perception of biotechnology and the business of biotechnology, which set the science in a broader context. This comprehensive textbook is essential reading for all students of biotechnology and applied microbiology, and for researchers in biotechnology industries.

A Unified Grand Tour of Theoretical Physics, Third Edition

CRC Press A Unified Grand Tour of Theoretical Physics invites its readers to a guided exploration of the theoretical ideas that shape our contemporary understanding of the physical world at the fundamental level. Its central themes, comprising space-time geometry and the general relativistic account of gravity, quantum field theory and the gauge theories of fundamental forces, and statistical mechanics and the theory of phase transitions, are developed in explicit mathematical detail, with an emphasis on conceptual understanding. Straightforward treatments of the standard models of particle physics and cosmology are supplemented with introductory accounts of more speculative theories, including supersymmetry and string theory. This third edition of the Tour includes a new chapter on quantum gravity, focusing on the approach known as Loop Quantum Gravity, while new sections provide extended discussions of topics that have become prominent in recent years, such as the Higgs boson, massive neutrinos, cosmological perturbations, dark energy and matter, and the thermodynamics of black holes. Designed for those in search of a solid grasp of the inner workings of these theories, but who prefer to avoid a full-scale assault on the research literature, the Tour assumes as its point of departure a familiarity with basic undergraduate-level physics, and emphasizes the interconnections between aspects of physics that are more often treated in isolation. The companion website at www.unifiedgrandtours.org provides further resources, including a comprehensive manual of solutions to the end-of-chapter exercises.

Principles of Igneous and Metamorphic Petrology

Cambridge University Press This textbook provides a basic understanding of the formative processes of igneous and metamorphic rock through quantitative applications of simple physical and chemical principles. The book encourages a deeper comprehension of the subject by explaining the petrologic principles rather than simply presenting the student with petrologic facts and terminology. Assuming knowledge of only introductory college-level courses in physics, chemistry, and calculus, it lucidly outlines mathematical derivations fully and at an elementary level, and is ideal for intermediate and advanced courses in igneous and metamorphic petrology. The end-of-chapter quantitative problem sets facilitate student learning by working through simple applications. They also introduce several widely-used thermodynamic software programs for calculating igneous and metamorphic phase equilibria and image analysis software. With over 350 illustrations, this revised edition contains valuable new material on the structure of the Earth's mantle and core, the properties and behaviour of magmas, recent results from satellite imaging, and more.

Radiation Protection in the Health Sciences

(With Problem Solutions Manual) Second Edition

World Scientific Publishing Company This book takes a very practical approach to radiation protection and presents very readable information for anyone working in the radiation field or with radioactive material. Offering information rarely found elsewhere, the authors describe in detail both the basic principles and practical implementation recommendations of radiation protection. Each chapter includes self-assessment review questions and problems, with answers provided, to help readers master important information. Coupled with a teacher's manual, this book is highly suitable as an undergraduate text for students preparing for careers as X-ray, radiation oncology, or nuclear medicine technologists. It can also be used as a reference for residents in radiology and radiation oncology, medical personnel, or anyone working with radioactive materials such as those involved in homeland security/emergency services, or employed at a nuclear power plant.

Solid-State Physics

Introduction to the Theory

Springer Science & Business Media While the standard solid state topics are covered, the basic ones often have more detailed derivations than is customary (with an empasis on crystalline solids). Several recent topics are introduced, as are some subjects normally included only in condensed matter physics. Lattice vibrations, electrons, interactions, and spin effects (mostly in magnetism) are discussed the most comprehensively. Many problems are included whose level is from "fill in the steps" to long and challenging, and the text is equipped with references and several comments about experiments with figures and tables.

Matter and Interactions, Volume I

Modern Mechanics

John Wiley & Sons

Modern Physical Metallurgy

Elsevier Modern Physical Metallurgy, Fourth Edition discusses the fundamentals and applications of physical metallurgy. The book is comprised of 15 chapters that cover the experimental background of a metallurgical phenomenon. The text first talks about the structure of atoms and crystals, and then proceeds to dealing with the physical examination of metals and alloys. The third chapter tackles the phase diagrams and solidifications, while the fourth chapter covers the thermodynamics of crystals. Next, the book discusses the structure of alloys. The next four chapters deal with the deformations and defects of crystals, metals, and alloys. Chapter 10 discusses work hardening and annealing, while Chapters 11 and 12 cover phase transformations. The succeeding two chapters talk about creep, fatigue, and fracture, while the last chapter covers oxidation and corrosion. The text will be of great use to undergraduate students of materials engineering and other degrees that deal with metallurgical properties.

Matter and Interactions II

Electric & Magnetic Interactions

John Wiley & Sons Incorporated A modern introduction to physics for advanced students, this work focuses on the atomic structure of the material plus the links between macroscopic and microscopic phenomena. Above all, readers learn how to explain complex physical processes using simple models. This second volume deals with the theory of electricity and magnetism, as well as physical optics as understood by the classical interaction between light and material. Electrostatics and currents are discussed in a simplified way using the electrical field and microscopic models.

Classical Dynamics

A Contemporary Approach

Cambridge University Press Advances in the study of dynamical systems have revolutionized the way that classical mechanics is taught and understood. Classical Dynamics, first published in 1998, is a comprehensive textbook that provides a complete description of this fundamental branch of physics. The authors cover all the material that one would expect to find in a standard graduate course: Lagrangian and Hamiltonian dynamics, canonical transformations, the Hamilton-Jacobi equation, perturbation methods, and rigid bodies. They also deal with more advanced topics such as the relativistic Kepler problem, Liouville and Darboux theorems, and inverse and chaotic scattering. A key feature of the book is the early introduction of geometric (differential manifold) ideas, as well as detailed treatment of topics in nonlinear dynamics (such as the KAM theorem) and continuum dynamics (including solitons). The book contains many worked examples and over 200 homework exercises. It will be an ideal textbook for graduate students of physics, applied mathematics, theoretical chemistry, and engineering, as well as a useful reference for researchers in these fields. A solutions manual is available exclusively for instructors.

Study Guide & Solutions Manual to Accompany Organic Chemistry, Third Edition

Addison Wesley Publishing Company

Student Solutions Manual for Thornton/Rex's Modern Physics for Scientists and Engineers, 4th

Cengage Learning The student solutions manual contains detailed solutions to approximately 25% of the end-of-chapter problems. Important Notice: Media content referenced within the product description or the product text may not be available in the ebook version.

The Bat Worker's Manual

Physics in Biology and Medicine

Academic Press This third edition covers topics in physics as they apply to the life sciences, specifically medicine, physiology, nursing and other applied health fields. It includes many figures, examples and illustrative problems and appendices which provide convenient access to the most important concepts of mechanics, electricity, and optics.

Special Relativity

From Einstein to Strings

Cambridge University Press This book provides a thorough introduction to Einstein's special theory of relativity, suitable for anyone with a minimum of one year's university physics with calculus. It is divided into fundamental and advanced topics. The first section starts by recalling the Pythagorean rule and its relation to the geometry of space, then covers every aspect of special relativity, including the history. The second section covers the impact of relativity in quantum theory, with an introduction to relativistic quantum mechanics and quantum field theory. It also goes over the group theory of the Lorentz group, a simple introduction to supersymmetry, and ends with cutting-edge topics such as general relativity, the standard model of elementary particles and its extensions, superstring theory, and a survey of important unsolved problems. Each chapter comes with a set of exercises. The book is accompanied by a CD-ROM illustrating, through interactive animation, classic problems in relativity involving motion.

Graphene

Carbon in Two Dimensions

Cambridge University Press An important introduction to graphene, its physics and potentially significant applications, for graduate students, physicists and materials science researchers.

The Mechanics of Earthquakes and Faulting

Cambridge University Press Our understanding of earthquakes and faulting processes has developed significantly since publication of the successful first edition of this book in 1990. This revised edition, first published in 2002, was therefore thoroughly up-dated whilst maintaining and developing the two major themes of the first edition. The first of these themes is the connection between fault and earthquake mechanics, including fault scaling laws, the nature of fault populations, and how these result from the processes of fault growth and interaction. The second major theme is the central role of the rate-state friction laws in earthquake mechanics, which provide a unifying framework within which a wide range of faulting phenomena can be interpreted. With the inclusion of two chapters explaining brittle fracture and rock friction from first principles, this book is written at a level which will appeal to graduate students and research scientists in the fields of seismology, physics, geology, geodesy and rock mechanics.

Theoretical Concepts in Physics

An Alternative View of Theoretical Reasoning in Physics for Final-Year Undergraduates

Cambridge University Press In this highly individual, and truly novel, approach to theoretical reasoning in physics, the author has provided a course that illuminates the subject from the standpoint of real physics as practised by research scientists. Professor Longair gives the basic insights, attitudes, and techniques that are the tools of the professional physicist, in a manner that conveys the intellectual excitement and beauty of the subject. The book is intended to be a supplement to more traditional courses for physics undergraduates, and the author assumes that his readers already have some knowledge of the main branches of physics. As the story unfolds, much of the core material of an undergraduate course in physics is reviewed from a more mature point of view. This is not, in fact, a substitute for existing texts. Rather it goes beyond them by improving the student's appreciation of the subject.

Statistical Mechanics

International Series of Monographs in Natural Philosophy

Elsevier Statistical Mechanics discusses the fundamental concepts involved in understanding the physical properties of matter in bulk on the basis of the dynamical behavior of its microscopic constituents. The book emphasizes the equilibrium states of physical systems. The text first details the statistical basis of thermodynamics, and then proceeds to discussing the elements of ensemble theory. The next two chapters cover the canonical and grand canonical ensemble. Chapter 5 deals with the formulation of quantum statistics, while Chapter 6 talks about the theory of simple gases. Chapters 7 and 8 examine the ideal Bose and Fermi systems. In the next three chapters, the book covers the statistical mechanics of interacting systems, which includes the method of cluster expansions, pseudopotentials, and quantized fields. Chapter 12 discusses the theory of phase transitions, while Chapter 13 discusses fluctuations. The book will be of great use to researchers and practitioners from wide array of disciplines,

such as physics, chemistry, and engineering.

Bayesian Data Analysis, Third Edition

CRC Press Now in its third edition, this classic book is widely considered the leading text on Bayesian methods, lauded for its accessible, practical approach to analyzing data and solving research problems. Bayesian Data Analysis, Third Edition continues to take an applied approach to analysis using up-to-date Bayesian methods. The authors—all leaders in the statistics community—introduce basic concepts from a data-analytic perspective before presenting advanced methods. Throughout the text, numerous worked examples drawn from real applications and research emphasize the use of Bayesian inference in practice. New to the Third Edition Four new chapters on nonparametric modeling Coverage of weakly informative priors and boundary-avoiding priors Updated discussion of cross-validation and predictive information criteria Improved convergence monitoring and effective sample size calculations for iterative simulation Presentations of Hamiltonian Monte Carlo, variational Bayes, and expectation propagation New and revised software code The book can be used in three different ways. For undergraduate students, it introduces Bayesian inference starting from first principles. For graduate students, the text presents effective current approaches to Bayesian modeling and computation in statistics and related fields. For researchers, it provides an assortment of Bayesian methods in applied statistics. Additional materials, including data sets used in the examples, solutions to selected exercises, and software instructions, are available on the book's web page.

The Economics of Imperfect Labor Markets

Second Edition

Princeton University Press Most labor economics textbooks pay little attention to actual labor markets, taking as reference a perfectly competitive market in which losing a job is not a big deal. The Economics of Imperfect Labor Markets is the only textbook to focus on imperfect labor markets and to provide a systematic framework for analyzing how labor market institutions operate. This expanded, updated, and thoroughly revised second edition includes a new chapter on labor-market discrimination; quantitative examples; data and programming files enabling users to replicate key results of the literature; exercises at the end of each chapter; and expanded technical appendixes. The Economics of Imperfect Labor Markets examines the many institutions that affect the behavior of workers and employers in imperfect labor markets. These include minimum wages, employment protection legislation, unemployment benefits, active labor market policies, working-time regulations, family policies, equal opportunity legislation, collective bargaining, early retirement programs, education and migration policies, payroll taxes, and employment-conditional incentives. Written for advanced undergraduates and beginning graduate students, the book carefully defines and measures these institutions to accurately characterize their effects, and discusses how these institutions are today being changed by political and economic forces. Expanded, thoroughly revised second edition New chapter on labor-market discrimination New quantitative examples New data sets enabling users to replicate key results of the literature New end-of-chapter exercises Expanded technical appendixes Unique focus on institutions in imperfect labor markets Integrated framework and systematic coverage Self-contained chapters on each of the most important labor-market institutions

Democracy and Education

Read Books Ltd This antiquarian volume contains a comprehensive treatise on democracy and education, being an introduction to the 'philosophy of education'. Written in clear, concise language and full of interesting expositions and thought-provoking assertions, this volume will appeal to those with an interest in the role of education in society, and it would make for a great addition to collections of allied literature. The chapters of this book include: 'Education as a Necessity of Life'; 'Education as a Social Function'; 'Education as Direction'; 'Education as Growth'; 'Preparation, Unfolding, and Formal Discipline'; 'Education as Conservative and Progressive'; 'The Democratic Conception in Education'; 'Aims in Education', etcetera. We are republishing this vintage book now complete with a new prefatory biography of the author.

The Basics of Nuclear and Particle Physics

Springer Nature This undergraduate textbook breaks down the basics of Nuclear Structure and modern Particle Physics. Based on a comprehensive set of course notes, it covers all the introductory material and latest research developments required by third- and fourth-year physics students. The textbook is divided into two parts. Part I deals with Nuclear Structure, while Part II delves into Particle Physics. Each section contains the most recent science in the field, including experimental data and research on the properties of the top quark and Higgs boson. Detailed mathematical derivations are provided where necessary to helps students grasp the physics at a deeper level. Many of these have been conveniently placed in the Appendices and can be omitted if desired. Each chapter ends with a brief summary and includes a number of practice problems, the answers to which are also provided.

The Big Book of Conflict Resolution Games: Quick, Effective Activities to Improve Communication, Trust and Collaboration

McGraw Hill Professional Make workplace conflict resolution a game that EVERYBODY wins! Recent studies show that typical managers devote more than a quarter of their time to resolving coworker disputes. The Big Book of Conflict-Resolution Games offers a wealth of activities and exercises for groups of any size that let you manage your business (instead of managing personalities). Part of the acclaimed, bestselling Big Books series, this guide offers step-by-step directions and customizable tools that empower you to heal rifts arising from ineffective communication, cultural/personality clashes, and other specific problem areas—before they affect your organization's bottom line. Let The Big Book of Conflict-Resolution Games help you to: Build trust Foster morale Improve processes Overcome diversity issues And more Dozens of physical and verbal activities help create a safe environment for teams to explore several common forms of conflict—and their resolution. Inexpensive, easy-to-implement, and proved effective at Fortune 500 corporations and mom-and-pop businesses alike, the exercises in The Big Book of Conflict-Resolution Games delivers everything you need to make your workplace more efficient, effective, and engaged.

Research Methods in Practice

Strategies for Description and Causation

SAGE Publications Thoroughly updated to reflect changes in both research and methods, this Third Edition of Remler and Van Ryzin's innovative, standard-setting text is imbued with a deep commitment to making social and policy research methods accessible and meaningful. Research Methods in Practice: Strategies for Description and Causation motivates readers to examine the logic and limits of social science research from academic journals and government reports. A central theme of causation versus description runs through the text, emphasizing the idea that causal research is essential to understanding the origins of social problems and their potential solutions. Readers will find excitement in the research experience as the best hope for improving the world in which we live, while also acknowledging the trade-offs and uncertainties in real-world research.

Advanced Stellar Astrophysics

Cambridge University Press This advanced 1998 textbook on stellar astrophysics provides a comprehensive and self-contained introduction for graduate students.

Student Solutions Manual to Accompany Chemistry: Structure & Dynamics, 3rd Edition

John Wiley & Sons Incorporated Work more effectively and check solutions as you go along with the text! This Student Solutions Manual is designed to accompany Spencer's Chemistry: Structure & Dynamics, 3rd Edition. It contains stepped out solutions to selected problems in the text. New scientific discoveries do not usually begin with models; they begin with data and a sprit of intellectual curiosity. In much the same way, Spencer, Dodner, and Rickard's Chemistry: Structure and Dynamics, 3rd Edition presents data and challenges students to derive the models. Built on the recommendations of the American Chemical Society's Task Force on the General Chemistry Curriculum, this innovative approach helps students get a feel for how chemists approach problems in the real world. This new Third Edition is now revised with a new chapter on materials science and increased coverage of nuclear chemistry.

Solid-State Physics

Introduction to the Theory

Springer While the standard solid state topics are covered, the basic ones often have more detailed derivations than is customary (with an empasis on crystalline solids). Several recent topics are introduced, as are some subjects normally included only in condensed matter physics. Lattice vibrations, electrons, interactions, and spin effects (mostly in magnetism) are discussed the most comprehensively. Many problems are included whose level is from "fill in the steps" to long and challenging, and the text is equipped with references and several comments about experiments with figures and tables.

Learning the bash Shell

Unix Shell Programming

"O'Reilly Media, Inc." O'Reilly's bestselling book on Linux's bash shell is at it again. Now that Linux is an established player both as a server and on the desktop Learning the bash Shell has been updated and refreshed to account for all the latest changes. Indeed, this third edition serves as the most valuable guide yet to the bash shell.As any good programmer knows, the first thing users of the Linux operating system come face to face with is the shell the UNIX term for a user interface to the system. In other words, it's what lets you communicate with the computer via the keyboard and display. Mastering the bash shell might sound fairly simple but it isn't. In truth, there are many complexities that need careful explanation, which is just what Learning the bash Shell provides.If you are new to shell programming, the book provides an excellent introduction, covering everything from the most basic to the most advanced features. And if you've been writing shell scripts for years, it offers a great way to find out what the new shell offers. Learning the bash Shell is also full of practical examples of shell commands and programs that will make everyday use of Linux that much easier. With this book, programmers will learn: How to install bash as your login shell The basics of interactive shell use, including UNIX file and directory structures, standard I/O, and background jobs Command line editing, history substitution, and key bindings How to customize your shell environment without programming The nuts and bolts of basic shell programming, flow control structures, command-line options and typed variables Process handling, from job control to processes, coroutines and subshells Debugging techniques, such as trace and verbose modes Techniques for implementing system-wide shell customization and features related to system security

Model Rules of Professional Conduct

American Bar Association The Model Rules of Professional Conduct provides an up-to-date resource for information on legal ethics. Federal, state and local courts in all jurisdictions look to the Rules for guidance in solving lawyer malpractice cases, disciplinary actions, disqualification issues, sanctions questions and much more. In this volume, black-letter Rules of Professional Conduct are followed by numbered Comments that explain each Rule's purpose and provide suggestions for its practical application. The Rules will help you identify proper conduct in a variety of given situations, review those instances where discretionary action is possible, and define the nature of the relationship between you and your clients, colleagues and the courts.

An Introduction to Classical Electromagnetic Radiation

Cambridge University Press A thorough description of classical electromagnetic radiation, for electrical engineers and physicists.

Intermolecular and Surface Forces

Academic Press This reference describes the role of various intermolecular and interparticle forces in determining the properties of simple systems such as gases, liquids and solids, with a special focus on more complex colloidal, polymeric and biological systems. The book provides a thorough foundation in theories and concepts of intermolecular forces, allowing researchers and students to recognize which forces are important in any particular system, as well as how to control these forces. This third edition is expanded into three sections and contains five new chapters over the previous edition. · starts from the basics and builds up to more complex systems · covers all aspects of intermolecular and interparticle forces both at the fundamental and applied levels · multidisciplinary approach: bringing together and unifying phenomena from different fields · This new edition has an expanded Part III and new chapters on non-equilibrium (dynamic) interactions, and tribology (friction forces)

An Introduction to International Relations

Cambridge University Press Invaluable to students and those approaching the subject for the first time, An Introduction to International Relations, Second Edition provides a comprehensive and stimulating introduction to international relations, its traditions and its changing nature in an era of globalisation. Thoroughly revised and updated, it features chapters written by a range of experts from around the world. It presents a global perspective on the theories, history, developments and debates that shape this dynamic discipline and contemporary world politics. Now in full-colour and accompanied by a password-protected companion website featuring additional chapters and case studies, this is the indispensable guide to the study of international relations.

TCP/IP Network Administration

Help for Unix System Administrators

"O'Reilly Media, Inc." This complete guide to setting up and running a TCP/IP network is essential for network administrators, and invaluable for users of home systems that access the Internet. The book starts with the fundamentals -- what protocols do and how they work, how addresses and routing are used to move data through the network, how to set up your network connection -- and then covers, in detail, everything you need to know to exchange information via the Internet.Included are discussions on advanced routing protocols (RIPv2, OSPF, and BGP) and the gated software package that implements them, a tutorial on configuring important network services -- including DNS, Apache, sendmail, Samba, PPP, and DHCP -- as well as expanded chapters on troubleshooting and security. TCP/IP Network Administration is also a command and syntax reference for important packages such as gated, pppd, named, dhcpd, and sendmail.With coverage that includes Linux, Solaris, BSD, and System V TCP/IP implementations, the third edition contains: Overview of TCP/IP Delivering the data Network services Getting startedM Basic configuration Configuring the interface Configuring routing Configuring DNS Configuring network servers Configuring sendmail Configuring Apache Network security Troubleshooting Appendices include dip, ppd, and chat reference, a gated reference, a dhcpd reference, and a sendmail reference This new edition includes ways of configuring Samba to provide file and print sharing on networks that integrate Unix and Windows, and a new chapter is dedicated to the important task of configuring the Apache web server. Coverage of network security now includes details on OpenSSH, stunnel, gpg, iptables, and the access control mechanism in xinetd. Plus, the book offers updated information about DNS, including details on BIND 8 and BIND 9, the role of classless IP addressing and network prefixes, and the changing role of registrars.Without a doubt, TCP/IP Network Administration, 3rd Edition is a must-have for all network administrators and anyone who deals with a network that transmits data over the Internet.

Biological Coherence and Response to External Stimuli

Springer Science & Business Media This book presents an extensive treatment of the introduction of modern physical concepts into biology. In particular, the concept of coherence finds wide applications and yields novel results in context with multiple problems as they arise in biology: these include long range resonant cellular effects and resonant interactions of biological tissues with low intensity electro-magnetic radiation. Extensive experimental support of the theoretical concept is presented.

Unimolecular Reactions

A Concise Introduction

Cambridge University Press The statistical theory of unimolecular reactions is now universally known as RRKM theory. This textbook covers the basics necessary for the understanding of RRKM theory in its original and variational, phase-space and angular momentum-conserved incarnations. After a review of the Kassel quantum model and the theory of Slater, the specific-energy RRKM rate constant k(E) is derived. The argument is then extended to the angular momentum-dependent rate constant k(E,J), to non-classical effects (tunneling and non-adiabatic transition), and the general problem of angular momentum conservation. A long chapter is devoted to the counting of quantum states. The chapter on thermal systems discusses both analytical and numerical solutions and is later extended to include the variational approach and discussion of exit channel effects. Containing many problem sets and solutions, the book is targeted at graduate and advanced undergraduate students studying chemical dynamics, chemical kinetics and theoretical chemistry.