



BOLLETTINO NUOVE ACCESSIONI

(dicembre 2005)

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Automated Planning : Theory and Practice / Dana Nau, Malik Ghallab, Paolo Traverso - London : Elsevier, c2004. - 635 p. - (Morgan Kaufmann Series in Artificial Intelligence)

ISBN 1-55860-856-7

Altri autori: I. Ghallab, Malik II. Traverso, Paolo

1. artificial intelligence

Collocazione: B006.3/0043

Chemical Kinetics and Mechanism / editor M. Mortimer, P.G. Taylor - Cambridge : The Royal Society of Chemistry, c2002. - 256 p. + 1 CD-ROM - (Molecular World)

ISBN 0-85404-670-4

Altri autori: I. Mortimer, Martin II. Taylor, P.G.

1. physical chemistry - chemical kinetics

Contiene: Part 1 Chemical Kinetics: Introduction; A Closer Look at Chemical Reactions; Rate in Chemical Kinetics; Factors Determining the Rate of a Chemical Reaction; Determining Experimental Rate Equations at a Fixed Temperature; The Effect of Temperature on the Rate of a Chemical Reaction; Elementary Reactions; Reaction Mechanism. Part 2 The Mechanism of Substitution: Organic Reactions; Reaction Mechanisms; Ionic Substitution Reactions; S_N2 and S_N1 Reaction Mechanisms; S_N2 Versus S_N1; Part 3: Elimination: Pathways and Products; Introduction: α -Elimination Reactions; The E₂ Mechanism; The E₁ Mechanism; Elimination Versus Substitution; Other Useful Elimination Reactions; Case Study: Shape-Selective Catalysis Using Zeolites

Abstract: This text considers the role of rate of reaction. It begins by introducing chemical kinetics and the analysis of reaction mechanism, from basic well-established concepts to leading edge research. Organic reaction mechanisms are then discussed, encompassing curly arrows, nucleophilic substitution and E₁ and E₂ elimination reactions. The book concludes with a case study on Zeolites, which examines their structure and internal dimensions in relation to their behaviour as molecular sieves and catalysts. The accompanying CD-ROM contains the "Kinetics Toolkit", a graph-plotting application designed for manipulation and analysis of kinetic data, which is built into many of the examples, questions and exercises in the text. There are also interactive activities illustrating reaction mechanisms.

Collocazione: B541.394/0001

A Course in Modern Mathematical Physics : Groups, Hilbert Space and Differential Geometry / Peter Szekeres - Cambridge : Cambridge University Press, c2004. - 600 p
ISBN 0-521-82960-7

1. mathematical physics

Contiene: Preface; 1. Sets and structures; 2. Groups; 3. Vector spaces; 4. Linear operators and matrices; 5. Inner product spaces; 6. Algebras; 7. Tensors; 8. Exterior algebra; 9. Special relativity; 10. Topology; 11. Measure theory and integration; 12. Distributions; 13. Hilbert space; 14. Quantum theory; 15. Differential geometry; 16. Differentiable forms; 17. Integration on manifolds; 18. Connections and curvature; 19. Lie groups and lie algebras

Abstract: This book provides an introduction to the major mathematical structures used in physics today. It covers the concepts and techniques needed for topics such as group theory, Lie algebras, topology, Hilbert space and differential geometry. Important theories of physics such as classical and quantum mechanics, thermodynamics, and special and general relativity are also developed in detail, and presented in the appropriate mathematical language. The book is suitable for advanced undergraduate and beginning graduate students in mathematical and theoretical physics, as well as applied mathematics. It includes numerous exercises and worked examples, to test the reader's understanding of the various concepts, as well as extending the themes covered in the main text. The only prerequisites are elementary calculus and linear algebra. No prior knowledge of group theory, abstract vector spaces or topology is required.

Collocazione: B530.15/0033

Flow Cytometry for Biotechnology / edited by Larry A. Klar - New York : Oxford University Press, c2005. - 388 p.
ISBN 0-19-515234-4

1. molecular biology - citology - measurement

Abstract: Flow cytometry is a sensitive and quantitative platform for the measurement of particle fluorescence. In flow cytometry, the particles in a sample flow in single file through a focused laser beam at rates of hundreds to thousands of particles per second. During the time each particle is in the laser beam, on the order of ten microseconds, one or more fluorescent dyes associated with that particle are excited. The fluorescence emitted from each particle is collected through a microscope objective, spectrally filtered, and detected with photomultiplier tubes. Flow cytometry is uniquely capable of the precise and quantitative molecular analysis of genomic sequence information, interactions between purified biomolecules and cellular function. Combined with automated sample handling for increased sample throughput, these features make flow cytometry a versatile platform with applications at many stages of drug discovery. Traditionally, the particles studied are cells, especially blood cells; flow cytometry is used extensively in immunology. This volume shows how flow cytometry is integrated into modern biotechnology, dealing with issues of throughput, content, sensitivity, and high throughput informatics with applications in genomics, proteomics and protein-protein interactions, drug discovery, vaccine development, plant and reproductive biology, pharmacology and toxicology, cell-cell interactions and protein engineering.

Collocazione: B574.87/0039

Flow cytometry data analysis : basic concepts and statistics / James V. Watson. – Cambridge : Cambridge University Press, c 1992
ISBN: 0-521-01970-2

1. molecular biology - cytology - measurement

Contiene: 1. Introduction; 2. Fundamental concepts; 3. Probability functions; 4. Significance testing and fit criteria; 5. Regression analysis; 6. Flow cytometric sources of variation; 7. Immunofluorescence data; 8. DNA histogram analysis; 9. Cell cycle kinetics; 10. Dynamic cellular events; 11. Multi-variant analysis primer; 12. Epilogue; Appendices; References; Index.

Abstract: Flow cytometry is now well established in research laboratories and is gaining increasing use in clinical medicine and pathology. The technique enables multiple simultaneous light scatter and fluorescence measurements to be made at the individual cell level at very rapid rates and results in very large quantities of data being collected. Data, however, is just a series of numbers which have to be converted to information which, in turn, must be shown to have meaning. This is the most important single aspect of flow cytometry but it has received relatively little attention. One of the frequently voiced advantages of the technology is that it produces 'good statistics' because large numbers of cells have been analysed. However, it is not very often that confidence limits are placed on results, hence the reader has little or no feel for the inherent variability in the information produced. This book covers very basic number handling techniques, regression analysis, probability functions, statistical tests and methods of analysing dynamic processes. All those who use flow cytometry in their research will find this book an invaluable guide to interpreting the data produced by flow cytometers.

Collocazione: CASA – B574.87/38

Logic in Computer Science : Modelling and Reasoning About Systems / Michael Huth, Mark Ryan.
- 2nd ed - Cambridge : Cambridge University Press, c2004. - 427 p.

ISBN 0-521-54310-X

Coautori: I. Ryan, Mark

1. computer programming - symbolic logic

Contiene: Foreword; 1. Propositional logic; 2. Predicate logic; 3. Verification by model checking; 4. Program verification; 5. Modal logics and agents; 6. Binary decision diagrams; Bibliography; Index.

Abstract: Recent years have seen the development of powerful tools for verifying hardware and software systems, as companies worldwide realise the need for improved means of validating their products. There is increasing demand for training in basic methods in formal reasoning so that students can gain proficiency in logic-based verification methods. The second edition of this successful textbook addresses both those requirements, by continuing to provide a clear introduction to formal reasoning which is both relevant to the needs of modern computer science and rigorous enough for practical application. Improvements to the first edition have been made throughout, with extra and expanded sections on SAT solvers, existential/universal second-order logic, micro-models, programming by contract and total correctness. The coverage of model-checking has been substantially updated. Further exercises have been added. Internet support for the book includes worked solutions for all exercises for teachers, and model solutions to some exercises for students.

Collocazione: CASA - B005.13/010

Macchine come noi : La scommessa dell'intelligenza artificiale / Yurij Castelfranchi, Oliviero Stock - Bari : Laterza, 2003. - 285 p. - (EconomicaLaterza ; 288)

ISBN 88-420-6956-6

Coautori: I. Stock, Oliviero

1. artificial intelligence

Absract: I computer ed i robot sono oggi capaci di compiere cose un tempo ritenute prerogativa degli esseri umani. Alcuni automi compiono gesta a noi impossibili: passeggiano su Marte, si calano nel cratere di un vulcano attivo, nella fossa delle Marianne o in un reattore nucleare. Eppure, i robot si trovano in difficoltà di fronte a compiti banali per una scimmietta o uno scarafaggio. E allora fin dove è possibile arrivare? Può una macchina pensare e sapere di esistere? Esisteranno mai robot in grado di provare sentimenti? Ed è giusto tentare di costruirli? Questo libro ripercorre le tappe dell'avventura dell'intelligenza artificiale, dagli automi del passato ai più sofisticati robot di oggi.

Collocazione: CASA - B006.3/0042

Mathematica for Theoretical Physics / Gerd Baumann. - 2nd. ed. - New York : Springer Science Business media, Inc, c2005. - 2 vol. (p. 942 compless.) + 2 CD-ROM

ISBN 0-387-01674-0

ISBN 0-387-21933-1

1. mathematical physics

Comprende: Classical mechanics and nonlinear dynamics

Electrodynamics, quantum mechanics, general relativity, and fractals

Collocazione: B530.15/0034 v.1

B530.15/0034 v.2

Molecular Physics and Elements of Quantum Chemistry : Introduction to Experiments and Theory / H. Haken , H.C. Wolf. - 2nd enlarged ed. - Berlin Heidelberg : Springer-Verlag, c2004. - 592 p. - (Advanced Texts in Physics, 1439-2674)

ISBN 3-540-40792-8

Coautori: I. Wolf, Hans C.

1. molecular physics

Contiene: 1 Introduction 2 Mechanical Properties of Molecules, their Size and Mass 2 Molecules in Electric and Magnetic Fields 3 Introduction to the Theory of Chemical Bonding 4 Symmetries and Symmetry Operations: A First Overview 5 Symmetries and Symmetry Operations. A Systematic Approach 6 The Multi-Electron Problem in Molecular Physics and Quantum Chemistry 7 Overview of Molecular Spectroscopy Techniques 8 Rotational Spectroscopy 9 Vibrational Spectroscopy 10 The Quantum-Mechanical Treatment of Rotational and Vibrational Spectra 11 Raman Spectra 12 Electronic States 13 The Electronic Spectra of Molecules 14 Further Remarks on the Techniques of Molecular Spectroscopy 15 The Interaction of Molecules with Light: Quantum-Mechanical Treatment 16 Theoretical Treatment of the Raman Effect and the Elements of Nonlinear Optics 17 Nuclear Magnetic Resonance 18 Electron Spin Resonance 19 Macromolecules, Biomolecules, and Supermolecules 20 Experiments with Molecules 21 Molecular Electronics and other Applications – Appendix

Abstract: This textbook introduces the molecular physics and quantum chemistry needed to understand the physical properties of molecules and their chemical bonds. It follows the authors' earlier textbook "The Physics of Atoms and Quanta" and presents both experimental and theoretical fundamentals for students in physics and physical and theoretical chemistry. The new edition treats new developments in areas such as high-resolution two-photon spectroscopy, ultrashort pulse spectroscopy, photoelectron spectroscopy, optical investigation of single molecules in condensed phase, electroluminescence, and light-emitting diodes.

Collocazione: B539.6/0013

Molecular toxicology protocols / Phouthone Keohavong, Stephen G. Grant. – Totowa (New Jersey) : Humana Press, c2005. – 489 p. – (Methods in molecular biology; 291)

ISBN: 1-58829-084-0

Altri autori: I. Keohavong, Phouthone II. Grant, Stephen G.

1. toxicology

Abstract: A collection of cutting-edge techniques for analyzing genotoxic exposure and detecting the resulting biological effects - including endogenous metabolites - up to and including the development of cancer. The authors emphasize analytical methods that can be specifically applied to human populations and patients. Among the applications detailed are the analysis of interactions between such cellular macromolecules as DNA and proteins and chemical and physical agents, the assessment of medically relevant toxicity, and the characterization of genetic alterations induced in transgenic animals by in vivo systems. There are also methods for the analysis of genotoxic exposure during gene expression, of cytotoxicity caused by the induction of apoptosis, of genetic alterations in reporter genes and oncogenes, early (pre-malignant) detection of altered oncogenes, and of individual variation in biotransformation and DNA repair capacity.

Collocazione: B615.9/25

Nonlinear Optical Crystals : A Complete Survey / David Nikogosyan - New York : Springer

Science, c2005. - 427 p.

ISBN 0-387-22022-4

1. applied physics - laser technology

Abstract: Nonlinear optical techniques are now recognized as the most efficient means available to generate laser radiation at wavelengths that are presently inaccessible via conventional sources. This technology uses nonlinear optical crystals for the frequency conversion of laser light. The book contains the most complete and up to date reference material on properties of nonlinear optical crystals, describes their applications, both traditional and specific, and provides the main mathematical formulas necessary for the calculation of the frequency conversion process. It is a vital source of information for scientists and engineers dealing with modern applications of nonlinear optical crystals in quantum electronics, optoelectronics and laser physics.

Collocazione.: B621.366/0017

Nuclear Energy : Principles, Practices, and Prospects / David Bodansky. - 2rev. ed. - New York, NY : Springer-Verlag New York Inc, c2004. - 715 p.
ISBN 0-387-20778-3

1. economics - nuclear energy

Contiene: The Motivation for Nuclear Energy * Nuclear Power Development * Radioactivity and Radiation Exposures * Effects of Radiation Exposures * Neutron Reactions * Nuclear Fission * Chain Reactions and Nuclear Reactors * Types of Nuclear Reactors * Nuclear Fuel Cycle * Nuclear Waste Disposal: Amounts of Waste * Storage and Disposal of Nuclear Wastes * US Waste Disposal Plans and the Yucca Mountain Repository * Policy Issues in Nuclear Waste Disposal * Nuclear Reactor Safety * Nuclear Reactor Accidents * Future Nuclear Reactors * Nuclear Bombs, Nuclear Energy, and Terrorism * Proliferation of Nuclear Weapons * Costs of Electricity * The Prospects for Nuclear Energy * A Elementary Aspects of Nuclear Physics * B General Tables

Abstract: The world faces serious difficulties in obtaining the energy that will be needed in coming decades for a growing population, especially given the problem of climate change caused by fossil fuel use. This book presents a view of nuclear energy as an important carbon-free energy option. It discusses the nuclear fuel cycle, the types of reactors used today and proposed for the future, nuclear waste disposal, reactor accidents and reactor safety, nuclear weapon proliferation, and the cost of electric power. To provide background for these discussions, the book begins with chapters on the history of the development and use of nuclear energy, the health effects of ionizing radiation, and the basic physics principles of reactor operation. The text has been rewritten and substantially expanded for this edition, to reflect changes that have taken place in the eight years since the publication of the first edition and to provide greater coverage of key topics. These include the Yucca Mountain repository plans, designs for next-generation reactors, weapons proliferation and terrorism threats, the potential of alternatives to nuclear energy, and controversies about low-level radiation. Acclaim for the first edition: "The book provides a superb background for scientists and those in technical fields. It provides probably all the information that many people, including government policy makers, will ever need. . . [a] well-written and balanced book. This book is recommended for anyone who wants a broad technical background on nuclear energy." American Journal of Physics

Collocazione: B333.7924/0137

The Physics of Atoms and Quanta : Introduction to Experiments and Theory / Hermann Haken, Hans C. Wolf. - 7.ed. - Berlin Heidelberg : Springer-Verlag, c2005. - 517 p. - (Advanced Texts in Physics, 1439-2674)

ISBN 3-540-20807-0

Coautori: I. Wolf, Hans C.

1. physics - quantum theory

Contiene: Introduction * The Mass and Size of the Atom * Isotopes * The Nucleus of the Atom * The Photon * The Electron * Some Basic Properties of Matter Waves * Bohr's Model of the Hydrogen Atom * The Mathematical Framework of Quantum Theory * Quantum Mechanics of the Hydrogen Atom * Lifting of the Orbital Degeneracy in the Spectra of Alkali Atoms * Orbital and Spin Magnetism. Fine Structure * Atoms in a Magnetic Field: Experiments and Their Semiclassical Description* Atoms in a Magnetic Field: Quantum Mechanical Treatment* Atoms in an Electric Field * General Laws of Optical Transitions * Many-Electron Atoms * XRay Spectra, Internal Shells * Structure of the periodic System. Ground States of the Elements * Nuclear Spin, Hyperfine

Structure * The Laser * Modern Methods of Optical Spectroscopy * Progress in Quantum Mechanics: A Deeper Insight and New Applications * Fundamentals of the Quantum Theory of Chemical Bonding * Appendix * Solutions to the Problems * Bibliography * Subject Index * Fundamental Constants of Atomic Physics.

Abstract: The Physics of Atoms and Quanta is a thorough introduction to experiments and theory in this field. Every classical and modern aspect is included and discussed in detail. The new edition is completely revised, new sections on atoms in strong electric fields and high magnetic fields complete the comprehensive coverage of all topics related to atoms and quanta. All new developments, such as new experiments on quantum entanglement, the quantum computer, quantum information, the Einstein-Podolsky-Rosen paradoxon, Bell's inequality, Schrodinger's cat, decoherence, Bose-Einstein-Condensation and the atom laser are discussed. Over 170 problems and their solutions help deepen the insight in this subject area and make this book a real study text. The second and more advanced book by the same authors entitled Molecular Physics and Elements of Quantum Chemistry is the completion of this unique textbook.

Collocazione: B535.15/0002

Physics in Nuclear Medicine / Simon R. Cherry, James A. Sorenson, Michael E. Phelps - Philadelphia : Elsevier, c2003. - 512 p.

ISBN 0-7216-8341-X

Altri autori: I. Sorenson, J.A. II. Phelps, M.E.

1. medical sciences - pathology - radiological diagnosis

Contiene: : CHAPTER 1: What is Nuclear Medicine a. Fundamental Concepts b. The Power of Nuclear Medicine c. Historical Overview d. Current Practice of Nuclear Medicine e. The Role of Physics in Nuclear Medicine CHAPTER 2: Basic Atomic and Nuclear Physics a. Quantities and Units b. Radiation c. Atoms d. Nuclear CHAPTER 3: Modes of Radioactive Decay a. General Concepts b. Chemistry and Radioactivity c. Decay by Emission d. Isomeric Transition and Internal Conversion e. Electron Capture and Decay f. Positron and Decay g. Competitive and EC Decay h. Decay by Emission and Nuclear Fission i. Decay Modes and the Line of Stability j. Sources of Information on Radionuclides CHAPTER 4: Decay of Radioactivity a. Activity b. Exponential Decay c. Methods for Determining Decay Factors d. Image-Frame Decay Corrections e. Specific Activity f. Decay of a Mixed Radionuclide Sample g. Parent-Daughter Decay CHAPTER 5: Isotope Production and Tracer Synthesis a. Reactor-Produced Radionuclides b. Accelerator-Produced Radionuclides c. Radionuclide Generators d. Equations for Radionuclide Production e. Radionuclides for Nuclear Medicine f. Radiopharmaceuticals for Clinical Applications CHAPTER 6: Interaction of Radiation with Matter a. Interactions of Charged Particles with Matter b. Charged-Particle Ranges c. Passage of High-Energy Photons Through Matter d. Attenuation of Photon Beams CHAPTER 7: Radiation Detectors a. Gas-filled Detectors b. Semi-conductor Detectors c. Scintillation Detectors CHAPTER 8: Electronic Instrumentation for Radiation Detection a. Preamplifiers b. Amplifiers c. Pulse-Height Analyzers d. Time-to-Amplitude Converters

Collocazione: B616.0757/0003

Quantum Interference and Coherence : Theory and Experiments / Zbigniew Ficek, Stuart Swain -
New York : Springer Science Business media, Inc., c2005. - 418 p. - (Springer Series in Optical
Sciences ; 100, 0342-4111)

ISBN 0-387-22965-5

Coautori: I. Swain, Stuart

1. physics - quantum theory

Abstract: This book brings together and discusses for the first time detailed analyses of the experiments with trapped ions, experiments on quantum beats, coherent population trapping, electromagnetically induced transparency (EIT), electromagnetically induced absorption, creation of dark-states polaritons, subluminal and superluminal light, realization of a Fock state, and interference experiments in atom optics on atom grating, momentum distribution, and atom tunneling. This book is unique in many respects and will fill a gap in the literature.

Collocazione: B535.15/0001

Seaweed Ecology and Physiology / Christopher S. Lobban, Paul J. Harrison - Cambridge :
Cambridge University Press, c1997. - 366 p.

ISBN 0-521-40897-0

1. botany - thallobionta and prokaryotae - phaeophyta (brown algae)

Abstract: A rewritten and re-organised edition of *The Physiological Ecology of Seaweeds* (1985). *Seaweed Ecology and Physiology* surveys the broad literature, but it is not merely an update of the earlier book. This new book contains a new introductory chapter reviewing seaweed morphology, cytology, and life histories. The chapter on community level ecology now includes six guest essays by senior algal ecologists which conveys the excitement of phycological research. The treatment of tropical seaweeds had been expanded, reflecting the growing literature from tropical regions, and the authors' recent experiences in the tropics. The final chapter on mariculture is much larger, and includes a case study on how principles of physiological ecology were applied in developing the carrageenan industry. Finally there is an appendix summarising the taxonomic position and nomenclature of the species mentioned in the book.

Collocazione: B589.45/0002

Short Protocols in Immunology : a compendium of methods from current protocols in immunology / editorial board John E. Coligan...[et al.] - Hooken, NJ : John Wiley and Sons, Inc, c2005. – pag varia

ISBN 0-471-71578-6

Altri autori: I. Coligan, John E.

1. immunology

Abstract: "Short Protocols in Immunology" is an easy-to use companion to "Protocols in Immunology". Drawn from the most fundamental and widely used methods in the well-known parent volume, this book provides step-by-step protocols in their most easily accessible format for use at the bench. Immunologists in basic science and clinical work alike will find techniques they rely on, including production, purification, and fragmentation of antibodies; assays for lymphocyte function; measurement of cytokines and cytokine receptors; biochemistry of lymphocyte activation; innate immunity, isolation of human immune cell populations, detection and analysis of HIV, and animal models for a variety of autoimmune and infectious diseases.

Collocazione: B616.079/005