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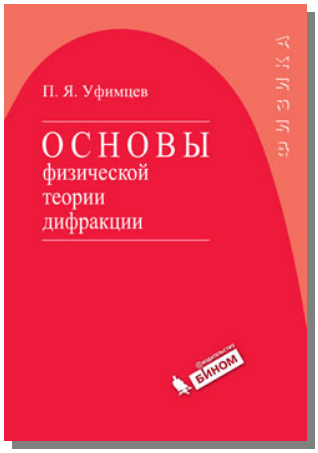

BASES OF THE DIFFRACTION PHYSICS THEORY

P. J. Ufimtsev

ISBN 978-5-94774-

351 pp.

165 x 235 mm, hardcover

2009

The book presents a diffraction of acoustic and electromagnetic waves on bodies, biggest in comparison with length of a wave. Asymptotic theory described in the book can be useful at solving various diffraction problems arising, for example, in such technician areas, as microwave aerials projecting, designing of acoustic barriers to lower the noise level, mobile and satellite radio communication, stealth-technology on creation of objects invisible to a radar and sonar.

The book is intended for researchers, teachers of higher schools, graduate and post-graduate students studying the diffraction phenomena in such disciplines, as acoustics, optics, radiophysics, mathematical physics, etc.

BASICS OF SELF-TIMED ELECTRONIC CIRCUITRY

Plekhanov L. P.

ISBN 978-5-9963-1504-8

208 pp., hardcover

145 x 215 mm

2013

The book presents in detail the initial ideas, working concepts, properties and creation of self-timed circuits. The reader would find the examples of combinational and sequential circuits, and the results of their unique properties' experimental verification. The narration is given from the point of new, functional approach, based on the study of logic functions that describe the schemes' elements, without the theory of automatoin methods' involvement.

The book is intended for specialists in discrete electronics and students in this direction.

FASCINATING NANOTECHNOLOGIES

M. M. Alfimova

ISBN 978-5-9963-0394-6

96 pp., hardcover

165 x 235 mm

2011

The book contains a description of three basic nanotechnology directions: new materials, nanoelectronic devices, biotechnologies. Readers would learn: what do nanotechnologies mean, which devices are required for creation of nanothings and how these things will look like. The text is supplied by qualitative illustrations, puzzles and tests.

The book is addressed to secondary school students.

FUNDAMENTALS OF MATERIALS SCIENCE: TEXTBOOK

G. G. Bondarenko, T. A. Kabanova, V. V. Rybalko

ISBN: 978-5-9963-0639-8

760 pp. hardcover

165 x 235 mm

2014

The textbook is one of the most unabridged modern educational titles on materials science. It presents fundamental data on the structure, physical and chemical properties, phase transformations and physical processes of a wide range of materials, including nanostructured, as well as their structure and properties research methods. Possibilities of nanostructures application for the solution of various technical tasks are widely illustrated. In the annex to the textbook a reader would find test tasks with variable answers that are intended for intermediate and final control.

The book is intended for students and graduate students specializing in the area of condensed environments and materials science physics, as well as for experts of various equipment and technologies areas.

GEOMETROPHYSICS, 2nd ED.

J. S. Vladimirov

ISBN 978-5-9963-0303-8

536 pp.

165 x 235 mm, hardcover

2010

The book introduces a statement and the analysis of the geometrical approach to the description of the physical world, in particular to the A. Einstein' general theory of a relativity and the multidimensional geometrical theory of physical interactions. The first part contains introduction to the general theory of a relativity. The theory of a relativity, its formulations and generalizations are considered in detail in the second part. The third part is devoted to a statement of the multidimensional geometrical theory of a microcosm. In the fourth part a reader would find the metaphysical analysis of geometrical and other approaches to physics for the purpose of a substantiation of necessity to pass to more perfect picture of the world.

The book is addressed for students and teachers of higher schools, physicists-theorists and philosophers.

ELECTROMAGNETISM. THE FUNDAMENTAL LAWS, 9th ED.

I. E. Irodov

ISBN: 978-5-9963-1334-1

319 pp.

145 x 215 mm, hardcover

2014

This textbook contains both theoretical material (basic principles of electromagnetism) and analysis of numerous examples and problems. Problems are closely related to the main context and supplements and further develop the theory presented in the book. The material is presented using as little mathematics as possible while the main accent is made on considering the physical aspects of the phenomenon.

The book is intended for students studying physics and other technical subjects.

ELECTROMAGNETISM. PROBLEM-SOLVING METHODS: A MANUAL, 2ND ED.

V. V. Pokrovsky

ISBN 978-5-9963-0641-1

120 pp., hardcover

145 x 215 mm

2011

The manual is devoted to the methods of solving problems on general physics section “Electromagnetism”. Most of the considered problems has been taken from the book “Problems in General Physics” by I. E. Irodov. Each section is preceded by the brief summary of theoretical issues and basic formulae. The methods of solving problems from each section are described.

The book is intended for students of physical specialties.

LECTURES ON PLASMA PHYSICS

I. *A. Kotelnikov*

ISBN 978-5-9963-1158-3

384 pp., hardcover

165 x 235 mm

2013

The book contains an expanded presentation of the course "Fundamentals of Plasma Physics". Special attention is given to the motion of particles in an electromagnetic field and the plasma kinetics, including the theory of Coulomb collisions, braking and recombination radiation, as well as a number of other elementary processes. A reader would find a detailed description of the theory of one-fluid and two-fluid magneto hydrodynamics. The book is intended for students who are familiar with the course of electrodynamics and molecular physics as well as the basics of quantum mechanics and statistical physics. The tutorial contains about 200 problems with detailed solutions.

The book is intended for students, graduate students, university professors, practitioners, and researchers specializing in physics and technology of plasma.

MECHANICS. THE FUNDAMENTAL LAWS, 12th ED.

I. E. Irodov

ISBN: 978-5-9963-1626-7

309 pp., hardcover

145 x 215 mm

2014

This textbook considers such fundamental laws of non-relativistic and relativistic mechanics as motion laws, laws of conservation of impulse, energy and impulse moment. Numerous examples and problems demonstrate how these laws are applied in different practical situations.

The book is intended for students studying physics and other technical subjects.

MECHANICS. PROBLEM SOLVING METHODS: A TUTORIAL

V. V. Pokrovsky

ISBN 978-5-9963-0175-1

256 pp., hardcover

145 x 215 mm

2012

This tutorial is devoted to problem solving methods in general physics (course section ”Mechanics”). Most of the problems were taken from the collection of “Problems in General Physics” by I. E. Irodov. Each section is preceded by a brief statement of theory and provides basic formulae and the methods of solving problems, which can be used in this section.

The book is intended for students of physics specialties.

METAPHYSICS, 2nd ED.

J. S. Vladimirov

ISBN 978-5-94774-989-2

568 pp.

165 x 235 mm, hardcover

2009

The book is devoted to the metaphysical bases of modern theoretical physics and disclosing of its leading development tendencies in the XXI century. The given (second) edition of the book is essentially processed and added. The first part describes the state of physics at the beginning of the XXth century. The 2nd part describes theories and programs within the limits of the standard theoretical-field outlook. The 3rd part is devoted to the geometrical world outlook which has been developed on the ideas of general relativity theory and Kaluts'-Klejn' multidimensional theories.

In the 4th part the bases and possibilities of the relational approach are analyzed. The 5th part introduces principles of binary geometrophysics, combining the ideas of previous physical programs. Finally the 6th part of the book considers correlation of science (physics), philosophy and religion problems on the basis of the metaphysical principles revealed during the analysis of physics development.

The given edition will be of use for students and teachers of higher schools. It is addressed to physicists, engineers, philosophers and everyone interested in a physical picture of the world and tendencies of theoretical physics development.

METAPHYSICS. THE XXI CENTURY: SCIENCE, PHILOSOPHY, RELIGION

J. S. Vladimirov (ed.)

ISSN 1995-1574

440 pp.

165 x 235 mm, hardcover

2010

The present book is devoted to problems of science, philosophy and religion correlation. Articles and materials collected in it are united by the idea of general metaphysical principles being the basics of all sections of world culture, including a science, philosophy and religion. The collection consists of four parts. The first part presents scientists' (mainly, physicists-theorists) views, the second part - philosophers' views, the third part reflects the Orthodox Church representatives views. And the fourth part contains the materials reflecting the relation of various religious faiths to the considered problems.

The collection is intended for science officers, philosophers, teachers of higher schools, students, clerics and a wide range of readers interested in universe bases.

METAPHYSICS. THE XXI CENTURY. THE LITERARY MISCELLANY, ISSUE 4: METAPHYSICS AND MATHEMATICS

Ju. S. Vladimirov (Ed.)
ISBN 978-5-9963-0551-3
463 pp., hardcover
165 x 235 mm
2011

The present issue is devoted to philosophical (metaphysical) analysis of mathematics' bases and its parity with physics. The book consists of four parts. The first part contains articles on fundamental mathematics problems by Russian authors. The second part includes articles on mathematical science bases by prominent scientists of the past. The third part consists of articles written by physicists-theorists in which questions of physics and mathematics parity are discussed. Finally, the fourth part presents the works of philosophers on the bases and key problems of mathematics.

The book is intended for scientists (mathematicians, physicists and philosophers), teachers of higher schools, students and a wide range of readers who are interested in the Universe bases.

QUANTUM MECHANICS: A TUTORIAL

Yu. A. Baikov, V. M. Kuznetsov
ISBN 978-5-9963-1159-0
291 pp., hardcover
165 x 235 mm
2013

The manual is intended for the training specialists in the area of nanomaterials and nanotechnology. The book describes the main trends of quantum mechanics formalism, including operator algebra, matrix mechanics, and Dirac parenthesis unit. Special attention is paid to approximate quantum-mechanical methods, widely used in quantum chemistry. The book includes the elements of the developing direction of quantum mechanics, namely quantum qubits, which is associated with the design and construction of quantum computers in the future. Specific technique of quantum-mechanical calculations are widely discussed. The book is intended for students and teachers of higher technical universities.

QUANTUM PHYSICS. THE FUNDAMENTAL LAWS, 5th ED.

I. E. Irodov

ISBN: 978-5-9963-0283-3

256 pp., hardcover

145 x 215 mm

2013

The textbook contains both theoretical and experimental material related to basic ideas of quantum physics and analysis of numerous examples and problems. Problems are closely related to the main context and supplement and further develop the theory presented in the book. The material is presented using as little mathematics as possible while the main accent is made on considering the physical aspects of the phenomenon.

The book is intended for students studying physics and other technical subjects.

PHYSICAL AND CHEMICAL BASES OF POLYMERIC SORBENTS SYNTHESIS: THE MANUAL

J. A. Lejkin

ISBN 978-5-9963-0127-0

413 pp., hardcover

145 x 215 mm

2011

The book describes physical and chemical bases of synthesis and modifying of neutral and ion-exchange sorbents of the polymeric nature balance of ionic exchange and complex formation in liquid and hard phases, and also methods of their description are considered. The knowledge about basic interrelations "structure-property" is necessary for selection of chemical structure complexing groups, selective to various anions and to cations, and also for creation and a choice of sorbents of the directed selectivity. The reader would find basic operational properties of commodity ionites and methods of their estimation.

The book is intended for students and post-graduate students of higher schools, scientific and technical experts in the field of synthesis and research of polymeric sorbents properties, and also their application in sorption technologies.

PHYSICS OF THE CONDENSED CONDITION: THE MANUAL

Ju. A. Baykov

ISBN 978-5-9963-0290-1

293 pp., hardcover

145 x 215 mm

2011

In addition to traditional sections of physics of solids the manual presents some modern directions such as physics of photon crystals, nanoscale physics, fractal representations of crystals. The theoretical material of every chapter is supplemented by problems with solutions.

For students. post-graduate students and teachers of higher technical schools.

PROBLEMS IN GENERAL PHYSICS, 10th ED.

I. E. Irodov

ISBN: 978-5-9963-1718-9

431 pp., hardcover

145 x 215 mm

2014

The book contains more than 2000 problems covering all main general physics topics including mechanics, electromagnetism, oscillations and waves, optics, quantum physics and physics of macro-systems. The set of problems in each topic is preceded by a brief summary of key theoretical facts. Reference tables are given at the end of the book.

The book is intended for students studying physics and other technical subjects.

SHORT COURSE OF THEORETICAL MECHANICS: THE MANUAL, 3rd ED.

G. N. Jakovenko

ISBN 978-5-9963-0442-4

116 pp., hardcover

145 x 215 mm

2010

The book contains basic data on theoretical mechanics presented in two sections: kinematics and dynamics. Besides traditional issues the theory of sliding vectors, variable structure systems movement, quaternion description of a hard matter movement are discussed. The book is intended for students, post-graduate students and universities teachers.

SOLUTION OF PROBLEMS ON RESISTANCE OF MATERIALS, 3rd ED.

E. A. Bulanov

ISBN 978-5-9963-0155-3

215 pp., hardcover

145 x 215 mm

2010

The manual contains theoretical data and detailed solutions of problems on the basic types of materials resistance, and also problems for independent solution with answers.

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