1. Record Nr. UNINA9910456746003321

Autore	Markos Peter
Titolo	Wave propagation [[electronic resource]] : from electrons to photonic crystals and left-handed materials / / Peter Markos, Costa M. Soukoulis
Pubbl/distr/stampa	Princeton, : Princeton University Press, 2008
ISBN	1-68015-901-1 1-282-53177-8 9786612531774 1-4008-3567-4
Edizione	[Course Book]
Descrizione fisica	1 online resource (367 p.)
Altri autori (Persone)	SoukoulisC. M
Disciplina	530.14/1 530.141 621.38131
Soggetti	Electric waves Electromagnetic waves - Mathematics Matrices Wave-motion, Theory of Electronic books.
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Frontmatter -- Contents -- Preface -- 1 Transfer Matrix -- 2 Rectangular Potentials -- 3 -Function Potential -- 4 Kronig-Penney Model -- 5 Tight Binding Model -- 6 Tight Binding Models of Crystals -- 7 Disordered Models -- 8 Numerical Solution of the Schrödinger Equation -- 9 Transmission and Reflection of Plane Electromagnetic Waves on an Interface -- 10 Transmission and Reflection Coefficients for a Slab -- 11 Surface Waves -- 12 Resonant Tunneling through Double-Layer Structures -- 13 Layered Electromagnetic Medium: Photonic Crystals -- 14 Effective Parameters -- 15 Wave Propagation in Nonlinear Structures -- 16 Left-Handed Materials -- Appendix A. Matrix Operations -- Appendix B. Summary of Electrodynamics Formulas -- Bibliography -- Index
Sommario/riassunto	This textbook offers the first unified treatment of wave propagation in

electronic and electromagnetic systems and introduces readers to the essentials of the transfer matrix method, a powerful analytical tool that can be used to model and study an array of problems pertaining to wave propagation in electrons and photons. It is aimed at graduate and advanced undergraduate students in physics, materials science, electrical and computer engineering, and mathematics, and is ideal for researchers in photonic crystals, negative index materials, left-handed materials, plasmonics, nonlinear effects, and optics. Peter Markos and Costas Soukoulis begin by establishing the analogy between wave propagation in electronic systems and electromagnetic media and then show how the transfer matrix can be easily applied to any type of wave propagation, such as electromagnetic, acoustic, and elastic waves. The transfer matrix approach of the tight-binding model allows readers to understand its implementation quickly and all the concepts of solid-state physics are clearly introduced. Markos and Soukoulis then build the discussion of such topics as random systems and localized and delocalized modes around the transfer matrix, bringing remarkable clarity to the subject. Total internal reflection, Brewster angles, evanescent waves, surface waves, and resonant tunneling in left-handed materials are introduced and treated in detail, as are important new developments like photonic crystals, negative index materials, and surface plasmons. Problem sets aid students working through the subject for the first time.

2. Record Nr. UNISA996466244303316

Titolo	Logic, Language and Computation [[electronic resource]] : Festschrift in Honor of Satoru Takasu / / edited by Neil Jones, Masami Hagiya, Masahiko Sato
Pubbl/distr/stampa	Berlin, Heidelberg : , : Springer Berlin Heidelberg : , : Imprint : Springer, , 1994
ISBN	3-540-48391-8
Edizione	[1st ed. 1994.]
Descrizione fisica	1 online resource (XIII, 269 p.)
Collana	Lecture Notes in Computer Science, , 0302-9743 ; ; 792
Disciplina	005.1/01/5113
Soggetti	Mathematical logic Computers Architecture, Computer Computer logic Programming languages (Electronic computers) Mathematical Logic and Formal Languages Theory of Computation Computer System Implementation Logics and Meanings of Programs Computation by Abstract Devices Programming Languages, Compilers, Interpreters
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Bibliographic Level Mode of Issuance: Monograph
Nota di contenuto	Lifschitz's logic of calculable numbers and optimizations in program extraction -- On implicit arguments -- A functional system with transfinitely defined types -- The non-deterministic catch and throw mechanism and its subject reduction property -- Conservativeness of ? over ??-calculus -- ML with first-class environments and its type inference algorithm -- A simple proof of the genericity lemma -- The logic of FOL systems: Formulated in set theory -- Well-ordering of algebras and Kruskal's theorem -- On locomorphism in analytical equivalence theory -- Analysis of a software/hardware system by tense arithmetic -- The essence of program transformation by partial evaluation and driving -- Program transformation via contextual

	assertions -- On coding theorems with modified length functions -- Thirty four comparisons are required to sort 13 items.
Sommario/riassunto	This volume contains 15 papers from research areas where Japanese theoretical computer science is particularly strong. Many are about logic, and its realization and applications to computer science; others concern synthesis, transformation and implementation of programming languages, and complexity and coding theory. Not coincidentally, all the authors are either former students or close colleagues of Satoru Takasu, professor and director at the Research Institute of Mathematical Sciences at the University of Kyoto. The purpose of this volume is to celebrate Professor Takasu's influence on theoretical computer science in Japan and worldwide by his research, his philosophy, and his advising of students. The breadth, depth and quality of the papers are characteristic of his interests and activities.