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ISBN	3-319-07806-2
Edizione	[3rd ed. 2015.]
Descrizione fisica	1 online resource (XXVI, 1046 p. 842 illus.)
Disciplina	530.141
Soggetti	Signal processing Image processing Speech processing systems Computers Electrical engineering Signal, Image and Speech Processing Information Systems and Communication Service Communications Engineering, Networks
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Bibliographic Level Mode of Issuance: Monograph
Nota di contenuto	Vector Algebra -- Vector Calculus -- Coulomb's Law and the Electric Field -- Gauss's Law and the Electric Potential -- Boundary Value Problems: Analytic Methods of Solution -- Boundary Value Problems: Numerical (Approximate) Methods -- The Steady Electric Current -- The Static Magnetic Field -- Magnetic Materials and Properties -- Faraday's Law of Induction -- Maxwell's Equations -- Electromagnetic Waves and Propagation -- Reflection and Transmission of Plane Waves -- Theory of Transmission Lines -- The Smith Chart, Impedance Matching and Transmission Line Circuits -- Transients on Transmission Lines -- Waveguides and Resonators -- Antennas and Electromagnetic Radiation -- Answers -- Index.
Sommario/riassunto	This book provides students with a thorough theoretical understanding of electromagnetic field equations and it also treats a large number of applications. The text is a comprehensive two-semester textbook. The work treats most topics in two steps – a short, introductory chapter followed by a second chapter with in-depth extensive treatment;

between 10 to 30 applications per topic; examples and exercises throughout the book; experiments, problems and summaries. The new edition includes: updated end of chapter problems; a new introduction to electromagnetics based on behavior of charges; a new section on units; MATLAB tools for solution of problems and demonstration of subjects; most chapters include a summary. The book is an undergraduate textbook at the Junior level, intended for required classes in electromagnetics. It is written in simple terms with all details of derivations included and all steps in solutions listed. It requires little beyond basic calculus and can be used for self-study. The wealth of examples and alternative explanations makes it very approachable by students. • More than 400 examples and exercises, exercising every topic in the book • Includes 600 end-of-chapter problems, many of them applications or simplified applications • Discusses the finite element, finite difference and method of moments in a dedicated chapter.
