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	Nota di contenuto	Cover -- Title Page -- Copyright -- Contents -- About the Authors -- Preface -- Acknowledgments -- 1 Maxwell's Equations, Constitutive Relations, Wave Equation, and Polarization -- 1.1 Introductory Comments -- 1.2 Maxwell's Equations -- 1.3 Constitutive Relations -- 1.4 Frequency Domain Fields -- 1.5 Kramers-Kronig Relationship -- 1.6 Vector and Scalar Wave Equations -- 1.6.1 Vector Wave Equations for EM Fields -- 1.6.2 Scalar Wave Equations for EM Fields -- 1.7 Separable Solutions of the Source-Free Wave Equation in Rectangular Coordinates and for Isotropic Homogeneous Media. Plane Waves -- 1.8 Polarization of Plane Waves, Poincare Sphere, and Stokes Parameters -- 1.8.1 Polarization States -- 1.8.2 General Elliptical Polarization -- 1.8.3 Decomposition of a Polarization State into Circularly Polarized Components -- 1.8.4 Poincare Sphere for Describing Polarization States -- 1.9 Phase and Group Velocity -- 1.10 Separable Solutions of the Source-Free Wave Equation in Cylindrical and Spherical Coordinates and for Isotropic Homogeneous Media -- 1.10.1 Source-Free Cylindrical Wave Solutions -- 1.10.2 Source-Free Spherical Wave Solutions -- References -- 2 EM Boundary and Radiation Conditions --

by an Externally Incident lectromagnetic Wave -- 9.6 A Matrix Green's Function Approach for Analyzing a Set of Coupled Transmission Lines -- 9.7 Solution to the Special Case of Two Coupled Lines (N = 2) with Homogeneous Dirichlet or Neumann End Conditions -- 9.8 Development of the Multiport Impedance Matrix for a Set of Coupled Transmission Lines.
9.9 Coupled Transmission Line Problems with Voltage Sources and Load Impedances at the End Terminals.

Sommario/riassunto

"This book is designed to provide an understanding of the behavior of EM fields in radiation, scattering and guided wave environments, from first principles and from low to high frequencies. Physical interpretations of the EM wave phenomena are stressed along with their underlying mathematics. Fundamental principles are stressed, and numerous examples are included to illustrate concepts. This book can facilitate students with a somewhat limited undergraduate EM background to rapidly and systematically advance their understanding of EM wave theory that is useful and important for doing graduate level research on wave EM problems. This book can therefore also be useful for gaining a better understanding of problems they are trying to simulate with commercial EM software and how to better interpret their results. The book can also be used for self-study as a refresher for EM industry professionals"--