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Nota di contenuto	RADIATING NONUNIFORM TRANSMISSION-LINE SYSTEMS AND THE PARTIAL ELEMENT EQUIVALENT CIRCUIT METHOD; Contents; Preface; References; Acknowledgments; List of Symbols; Introduction; References; 1 Fundamentals of Electrodynamics; 1.1 Maxwell Equations Derived from Conservation Laws - an Axiomatic Approach; 1.1.1 Charge Conservation; 1.1.2 Lorentz Force and Magnetic Flux Conservation; 1.1.3 Constitutive Relations and the Properties of Space time; 1.1.4 Remarks; 1.2 The Electromagnetic Field as a Gauge Field - a Gauge Field Approach 1.2.1 Differences of Physical Fields that are Described by Reference Systems 1.2.2 The Phase of Microscopic Matter Fields; 1.2.3 The Reference Frame of a Phase; 1.2.4 The Gauge Fields of a Phase; 1.2.5 Dynamics of the Gauge Field; 1.3 The Relation Between the Axiomatic

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Sommario/riassunto

High frequencies of densely packed modern electronic equipment turn even the smallest piece of wire into a transmission line with signal retardation, dispersion, attenuation, and distortion. In electromagnetic environments with high-power microwave or ultra-wideband sources, transmission lines pick up noise currents generated by external electromagnetic fields. These are superimposed on essential signals, the lines acting not only as receiving antennas but radiating parts of the signal energy into the environment. This book is outstanding in its originality. While many textbooks rephrase