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Nota di contenuto	Introduction -- Basics of data-driven surrogate modeling -- Physics-based surrogate modeling -- Design-oriented modeling of high-frequency structures -- Triangulation-based constrained modeling -- Nested kriging modeling -- Feature-based constrained modeling -- Variable-fidelity performance-driven modeling -- Constrained modeling for efficient multi-objective optimization -- Warm-start design optimization -- Summary and conclusion.
Sommario/riassunto	This book discusses surrogate modeling of high-frequency structures including antenna and microwave components. The focus is on constrained or performance-driven surrogates. The presented techniques aim at addressing the limitations of conventional modeling methods, pertinent to the issues of dimensionality and parameter ranges that need to be covered by the surrogate to ensure its design

utility. Within performance-driven methodologies, mitigation of these problems is achieved through appropriate confinement of the model domain, focused on the regions promising from the point of view of the relevant design objectives. This enables the construction of reliable surrogates at a fraction of cost required by conventional methods, and to accomplish the modeling tasks where other techniques routinely fail. The book provides a broad selection of specific frameworks, extensively illustrated using examples of real-world microwave and antenna structures along with numerous design examples. Furthermore, the book contains introductory material on data-driven and physics-based surrogates. The book will be useful for the readers working in the area of high-frequency electronics, including microwave engineering, antenna design, microwave photonics, magnetism, especially those that utilize electromagnetic (EM) simulation models in their daily routines. Covers performance-driven and constrained modeling methods, not available in other books to date; Discusses of a wide range of practical case studies including a variety of microwave and antenna structures; Includes design applications of the presented modeling frameworks, including single- and multi-objective parametric optimization.