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Altri autori (Persone)	JungBaek Ho
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Nota di contenuto	Preface. -- Acknowledgments. -- List of Symbols. -- Acronyms. -- Chapter 1 Mathematical Basis of a Numerical Method. -- Chapter 2 Analysis of Conducting Structures in the Frequency Domain. -- Chapter 3 Analysis of Dielectric Objects in the Frequency Domain. -- Chapter 4 Analysis of Composite Structures in the Frequency Domain. -- Chapter 5 Analysis of Conducting Wires in the Time Domain. -- Chapter 6 Analysis of Conducting Structures in the Time Domain. -- Chapter 7 Analysis of Dielectric Structures in the Time Domain. -- Chapter 8 An Improved Marching-on-in-Degree (MOD) Methodology. -- Chapter 9 Numerical Examples for the New and Improved Marching-on-in-Degree (MOD) Method. -- Chapter 10 A Hybrid Method Using Early-Time and Low-Frequency Information to Generate a Wideband Response. -- Appendix User Guide for the Time and Frequency Domain EM Solver Using Integral Equations (TFDSIE). -- Index. -- About the Authors.
Sommario/riassunto	The first to address the solution of integral equations in both time and frequency domainsIntegral equations-based methods are among the

most versatile techniques that one can use for the electromagnetic analysis of both conducting and piecewise homogeneous material bodies. They provide both efficient and accurate solutions for challenging problems, such as analysis of electrically large structures. Written by leading researchers in the field, Time and Frequency Domain Solutions of EM Problems Using Integral Equations and a Hybrid Methodology provides a compendium of solution techniques dealing with integral equations arising in electromagnetic field problems in the time and frequency domains. This book deals primarily with the novel solution of time domain integral equations. It documents the authors' unique space/time separation approach using associated Laguerre functions. A hybrid method based simultaneously on the time and frequency domains is presented to illustrate how to go beyond the limitations of the hardware resources of a computer to solve challenging electrically large electromagnetic field problems. User-friendly electromagnetic analysis computer codes are provided along with examples illustrating the various methodologies. The book also: Provides a summary of the different types of spaces including the concept of mapping and projections leading to the formulation of operator equations. Discusses the solution of frequency domain integral equations using the popular triangular discretizations and the RWG basis functions. Describes how to solve time domain integral equations using the classic marching-on-in-time (MOT) and the new marching-on-in-degree (MOD) methodologies. Presents a new, improved version of the marching-on-in-degree (MOD) methodology. Presents a hybrid methodology by using early time and low frequency information to solve large problems no longer limited by the hardware resources of the computer. With sample computer programs and examples, this book is ideal for graduate students and scientists in electrical engineering and computational electromagnetics who are looking to gain a basic understanding of the numerical solution of integral equations in frequency and time domains. A unique text designed to increase understanding of the content through hands-on material, Time and Frequency Domain Solutions of EM Problems Using Integral Equations and a Hybrid Methodology is useful for both research and teaching.

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