

1. Record Nr.	UNISA996280468203316
Titolo	IEEE Std C57.13.3-2005 (Revision of IEEE Std C57.13.3-1983) : IEEE Guide for Grounding of Instrument Transformer Secondary Circuits and Cases // Institute of Electrical and Electronics Engineers
Pubbl/distr/stampa	New York : , : IEEE, , 2006
ISBN	0-7381-4853-9
Descrizione fisica	1 online resource (viii, 33 pages)
Disciplina	662.20289
Soggetti	Electric currents - Standards Electric currents - Grounding
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Sommario/riassunto	The practices described in this guide apply to all instrument transformers, including capacitive voltage transformers (VTs) and linear couplers, irrespective of primary voltage or whether the primary windings are connected to, or are in, power circuits or are connected in the secondary circuits of other transformers as auxiliary current transformers (CTs) or VTs. This guide does not discuss the grounding of some applications. For example, grounding of gas insulated substations and metal clad switchgear is not discussed in this guide; the reader will find these topics addressed in IEEE Std 242. The grounding of circuits of core-balance CTs is also not discussed in this guide. The reader can also find this information in IEEE Std 242. Another issue that is not discussed in this guide is the practice of using separate safety and control grounds. For discussion on this topic, the reader is directed to IEEE Std 665.

2. Record Nr.	UNINA9911018804803321
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Titolo	Advanced modeling in computational electromagnetic compatibility / / Dragan Poljak
Pubbl/distr/stampa	Hoboken, N.J., : Wiley-Interscience, c2007
ISBN	9786610822270 9781280822278 1280822279 9780470116883 0470116889 9780470116876 0470116870
Descrizione fisica	1 online resource (516 p.)
Disciplina	621.382/24
Soggetti	Electromagnetic compatibility - Mathematical models Electromagnetic compatibility - Data processing
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	ADVANCED MODELING IN COMPUTATIONAL ELECTROMAGNETIC COMPATIBILITY; CONTENTS; PREFACE; PART I: FUNDAMENTAL CONCEPTS IN COMPUTATIONAL ELECTROMAGNETIC COMPATIBILITY; 1. Introduction to Computational Electromagnetics and Electromagnetic Compatibility; 1.1 Historical Note on Modeling in Electromagnetics; 1.2 Electromagnetic Compatibility and Electromagnetic Interference; 1.2.1 EMC Computational Models and Solution Methods; 1.2.2 Classification of EMC Models; 1.2.3 Summary Remarks on EMC Modeling; 1.3 References; 2. Fundamentals of Electromagnetic Theory; 2.1 Differential Form of Maxwell Equations 2.2 Integral Form of Maxwell Equations 2.3 Maxwell Equations for Moving Media; 2.4 The Continuity Equation; 2.5 Ohm's Law; 2.6 Conservation Law in the Electromagnetic Field; 2.7 The Electromagnetic Wave Equations; 2.8 Boundary Relationships for Discontinuities in Material Properties; 2.9 The Electromagnetic Potentials; 2.10 Boundary Relationships for Potential Functions; 2.11 Potential Wave Equations;

2.11.1 Coulomb Gauge; 2.11.2 Diffusion Gauge; 2.11.3 Lorentz Gauge; 2.12 Retarded Potentials; 2.13 General Boundary Conditions and Uniqueness Theorem; 2.14 Electric and Magnetic Walls 2.15 The Lagrangian Form of Electromagnetic Field Laws 2.15.1 Lagrangian Formulation and Hamilton Variational Principle; 2.15.2 Lagrangian Formulation and Hamilton Variational Principle in Electromagnetics; 2.16 Complex Phasor Notation of Time-Harmonic Electromagnetic Fields; 2.16.1 Poynting Theorem for Complex Phasors; 2.16.2 Complex Phasor Form of Electromagnetic Wave Equations; 2.16.3 The Retarded Potentials for the Time-Harmonic Fields; 2.17 Transmission Line Theory; 2.17.1 Field Coupling Using Transmission Line Models 2.17.2 Derivation of Telegrapher's Equation for the Two-Wire Transmission Line 2.18 Plane Wave Propagation; 2.19 Radiation; 2.19.1 Radiation Mechanism; 2.19.2 Hertzian Dipole; 2.19.3 Fundamental Antenna Parameters; 2.19.4 Linear Antennas; 2.20 References; 3 Introduction to Numerical Methods in Electromagnetics; 3.1 Analytical Versus Numerical Methods; 3.1.1 Frequency and Time Domain Modeling; 3.2 Overview of Numerical Methods: Domain, Boundary, and Source Simulation; 3.2.1 Modeling of Problems via the Domain Methods: FDM and FEM 3.2.2 Modeling of Problems via the BEM: Direct and Indirect Approach 3.3 The Finite Difference Method; 3.3.1 One-Dimensional FDM; 3.3.2 Two-Dimensional FDM; 3.4 The Finite Element Method; 3.4.1 Basic Concepts of FEM; 3.4.2 One-Dimensional FEM; 3.4.3 Two-Dimensional FEM; 3.5 The Boundary Element Method; 3.5.1 Integral Equation Formulation; 3.5.2 Boundary Element Discretization; 3.5.3 Computational Example for 2D Static Problem; 3.6 References; 4 Static Field Analysis; 4.1 Electrostatic Fields; 4.2 Magnetostatic Fields; 4.3 Modeling of Static Field Problems 4.3.1 Integral Equations in Electrostatics Using Sources

Sommario/riassunto

This text combines the fundamentals of electromagnetics with numerical modeling to tackle a broad range of current electromagnetic compatibility (EMC) problems, including problems with lightning, transmission lines, and grounding systems. It sets forth a solid foundation in the basics before advancing to specialized topics, and allows readers to develop their own EMC computational models for applications in both research and industry.