

**DONALD D. WEINER
JOHN E. SPINA**

SINUSOIDAL ANALYSIS AND MODELING OF WEAKLY NONLINEAR CIRCUITS

With Application to Nonlinear Interference Effects



Wiley-Interscience and Prentice-Hall Electrical Computer Science and Engineering Series

Sinusoidal Analysis And Modeling Of Weakly Nonlinear Circuits With Application To Nonlinear Interference Effects

Clifford Lane



Sinusoidal Analysis And Modeling Of Weakly Nonlinear Circuits With Application To Nonlinear Interference Effects:

Sinusoidal Analysis and Modeling of Weakly Nonlinear Circuits Donald D. Weiner, John F. Spina, 1980 **Condition Monitoring and Nonlinear Frequency Analysis Based Fault Detection of Mechanical Vibration Systems** Hogir Rafiq, 2023-08-26 Hogir Rafiq proposes two approaches the signal processing based condition monitoring approaches with applications to fault detection in gear systems and application of deep mathematical and system theoretical methods to fault detection The author develops the multivariate empirical mode decomposition MEMD algorithm to enhance the capability of extracting fault features and theoretical problems in nonlinear frequency analysis methods respectively The effectiveness has been demonstrated by an experimental study on a wind turbine gearbox test rig Computer Methods for Analysis of Mixed-Mode Switching Circuits Fei Yuan, Ajoy Opal, 2007-05-08 Computer Methods for Analysis of Mixed Mode Switching Circuits provides an in depth treatment of the principles and implementation details of computer methods and numerical algorithms for analysis of mixed mode switching circuits Major topics include Computer oriented formulation of mixed mode switching circuits Network functions of linear and nonlinear time varying systems Numerical Laplace inversion based integration algorithms and inconsistent initial conditions Time domain analysis of periodically switched linear and nonlinear circuits including response sensitivity noise clock jitter and statistical quantities Time domain analysis of circuits with internally controlled switches and over sampled sigma delta modulators Tellegen s theorem frequency reversal theorem and transfer function theorem of periodically switched linear circuits and their applications Frequency domain analysis of periodically switched linear and nonlinear circuits including response sensitivity group delay noise and statistical quantities

Interpolatory Methods for Model Reduction A. C. Antoulas, C. A. Beattie, S. Gü?ercin, 2020-01-13 Dynamical systems are a principal tool in the modeling prediction and control of a wide range of complex phenomena As the need for improved accuracy leads to larger and more complex dynamical systems direct simulation often becomes the only available strategy for accurate prediction or control inevitably creating a considerable burden on computational resources This is the main context where one considers model reduction seeking to replace large systems of coupled differential and algebraic equations that constitute high fidelity system models with substantially fewer equations that are crafted to control the loss of fidelity that order reduction may induce in the system response Interpolatory methods are among the most widely used model reduction techniques and Interpolatory Methods for Model Reduction is the first comprehensive analysis of this approach available in a single extensive resource It introduces state of the art methods reflecting significant developments over the past two decades covering both classical projection frameworks for model reduction and data driven nonintrusive frameworks This textbook is appropriate for a wide audience of engineers and other scientists working in the general areas of large scale dynamical systems and data driven modeling of dynamics **Modern Communications Receiver Design and Technology** Cornell

Drentea,2010 This comprehensive sourcebook thoroughly explores the state of the art in communications receivers providing detailed practical guidance for constructing an actual high dynamic range receiver from system design to packaging You also find clear explanations of the technical underpinnings that you need to understand for your work in the field This cutting edge reference presents the latest information on modern superheterodyne receivers dynamic range mixers oscillators complex coherent synthesizers automatic gain control DSP and software radios You find in depth discussions on system design including coverage of all pertinent data and tools Moreover the book offers you a solid understanding of packaging and mechanical considerations as well as a look at tomorrow OCOs receiver technology including new Bragg cell applications for ultra wideband electronic warfare receivers This one stop resource is packed with over 300 illustrations that support critical topics throughout

Principles of Digital Transmission Sergio Benedetto,Ezio Biglieri,2005-12-17 Principles of Digital Transmission is designed for advanced undergraduate and graduate level students and professions in telecommunications Teachers and learners can mix and match chapters to create four distinct courses 1 a one term basic course in digital communications 2 a one term course in advanced digital communications 3 a one term course in information theory and coding 4 a two term course sequence in digital communications and coding The book provides rigorous mathematical tools for the analysis and design of digital transmission systems The authors emphasize methodology in their aim to teach the reader how to do it rather than how it is done They apply the fundamental tools of the discipline onto a number of systems such as wireless data transmission systems

Engineering Electromagnetic Compatibility V. Prasad Kodali,2001-01-19 Electrical Engineering Engineering Electromagnetic Compatibility Principles Measurements Technologies and Computer Models Second Edition This practical enhanced second edition will teach you to avoid costly post design electromagnetic compatibility EMC fixes Once again V Prasad Kodali provides a comprehensive introduction to EMC and presents current technical information on sources of electromagnetic interference EMI EMC EMI measurements technologies to control EMI computer simulation and design and international EMC standards Features added to this second edition include Two new chapters covering EMC computer modeling and simulation and signal integrity Expanded assignments at the close of each chapter Illustrative examples that enhance comprehension Updated information in Selected Bibliography and EMC Standards chapters A new appendix that lists websites relevant to EMC EMI Engineering Electromagnetic Compatibility Second Edition is presented in a concise user friendly format that combines a rigorous solutions based mathematical treatment of the underlying theories of EMC with the most recent practical applications It is ideally suited as a desk reference for practicing engineers and as a textbook for students who need to understand the form and function of EMC and its relevance to a variety of systems

Digital Transmission Theory Sergio Benedetto,Ezio Biglieri,Valentino Castellani,1987 **Advances in Circuits and Systems** ,1985 **Electromagnetic Compatibility** ,1982 Monographic Series Library of Congress, **Choice** ,1980 National Union Catalog ,1981 Includes entries for

maps and atlases Subject Catalog Library of Congress,1981 **Bibliographic Index** ,1983 **Subject Catalog, 1981**
Library of Congress,1981 National Union Catalog, 1981 ,1982 Substrate Noise Coupling in Mixed-Signal ASICs
Stéphane Donnay,Georges Gielen,2006-05-31 This book is the first in a series of three dedicated to advanced topics in Mixed
Signal IC design methodologies It is one of the results achieved by the Mixed Signal Design Cluster an initiative launched in
1998 as part of the TARDIS project funded by the European Commission within the ESPRIT IV Framework This initiative
aims to promote the development of new design and test methodologies for Mixed Signal ICs and to accelerate their adoption
by industrial users As Microelectronics evolves Mixed Signal techniques are gaining a significant importance due to the wide
spread of applications where an analog front end is needed to drive a complex digital processing subsystem In this sense
Analog and Mixed Signal circuits are recognized as a bottleneck for the market acceptance of Systems On Chip because of
the inherent difficulties involved in the design and test of these circuits Specially problems arising from the use of a common
substrate for analog and digital components are a main limiting factor The Mixed Signal Cluster has been formed by a group
of 11 Research and Development projects plus a specific action to promote the dissemination of design methodologies
techniques and supporting tools developed within the Cluster projects The whole action ending in July 2002 has been
assigned an overall budget of more than 8 million EURO Subject Guide to Books in Print ,1983 *Handbook of*
Physiology: Skeletal muscle John Field,1959

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