1. Record Nr. UNISA996466772403316

Titolo	Geometric Aspects of Functional Analysis [[electronic resource]] : Israel Seminar 2006–2010 / / edited by Bo'az Klartag, Shahar Mendelson, Vitali D. Milman
Pubbl/distr/stampa	Berlin, Heidelberg : , : Springer Berlin Heidelberg : , : Imprint : Springer, , 2012
ISBN	3-642-29849-4
Edizione	[1st ed. 2012.]
Descrizione fisica	1 online resource (VIII, 449 p. 3 illus.)
Collana	Lecture Notes in Mathematics, , 0075-8434 ; ; 2050
Disciplina	515/.7
Soggetti	Functional analysis Convex geometry Discrete geometry Probabilities Functional Analysis Convex and Discrete Geometry Probability Theory and Stochastic Processes
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Bibliographic Level Mode of Issuance: Monograph
Nota di bibliografia	Includes bibliographical references.
Nota di contenuto	The -Cosine Transform and Intertwining Integrals on Real Grassmannians -- On Modules Over Valuations -- On Multiplicative Maps of Continuous and Smooth Functions -- Order Isomorphisms on Convex Functions in Windows -- Finite Transitive Graph Embeddings into a Hyperbolic -- Metric Space Must Stretch or Squeeze -- Tightness of Fluctuations of First Passage Percolation on Some Large Graphs -- Finitely Supported Measures on SL2(R) which are Absolutely Continuous at Infinity -- Interpolations, Convexity and Geometric Inequalities -- Hypercontractive Measures, Talagrand's Inequality, and Inuences -- A Family of Unitary Operators Satisfying a Poisson-Type Summation Formula -- Stability of Order Preserving Transforms -- On the Distribution of the 2-Norm of Linear Functionals on Isotropic Convex Bodies -- A Remark on Vertex Index of the Convex Bodies -- Inner Regularization of Log-Concave Measures and Small-Ball Estimates -- An Operator Equation Generalizing the Leibniz Rule for the Second

Derivative -- Moments of Unconditional Logarithmically Concave Vectors -- Projections of Probability Distributions: A Measure-Theoretic Dvoretzky Theorem -- On a Loomis-Whitney Type Inequality for Permutationally Invariant Unconditional Convex Bodies -- The Hörmander Proof of the Bourgain-Milman Theorem -- On Some Extension of Feige's Inequality -- On the Mean Width of Log-Concave -- Approximate Gaussian Isoperimetry for k Sets -- Remark on Stability of Brunn-Minkowski and Isoperimetric Inequalities for Convex Bodies -- On Contact Points of Convex Bodies.

Sommario/riassunto

This collection of original papers related to the Israeli GAFA seminar (on Geometric Aspects of Functional Analysis) from the years 2006 to 2011 continues the long tradition of the previous volumes, which reflect the general trends of Asymptotic Geometric Analysis, understood in a broad sense, and are a source of inspiration for new research. Most of the papers deal with various aspects of the theory, including classical topics in the geometry of convex bodies, inequalities involving volumes of such bodies or more generally, logarithmically-concave measures, valuation theory, probabilistic and isoperimetric problems in the combinatorial setting, volume distribution on high-dimensional spaces and characterization of classical constructions in Geometry and Analysis (like the Legendre and Fourier transforms, derivation and others). All the papers here are original research papers.

2. Record Nr. UNINA9910813665803321

Autore	Paul Clayton R
Titolo	Transmission lines in digital and analog electronic systems : signal integrity and crosstalk / / Clayton R. Paul
Pubbl/distr/stampa	[Piscataway, NJ], : IEEE Press Hoboken, NJ, : Wiley, c2010
ISBN	9786613024916 9781283024914 1283024918 9781118058244 1118058240 9780470651414 0470651415 9780470651407 0470651407
Edizione	[1st edition]
Descrizione fisica	1 online resource (299 pages)
Disciplina	621.319 621.382/3
Soggetti	Multiconductor transmission lines Telecommunication lines Crosstalk Signal integrity (Electronics) Electronic circuits
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	Preface -- 1 Basic Skills and Concepts Having Application to Transmission Lines -- 1.1 Units and Unit Conversion -- 1.2 Waves, Time Delay, Phase Shift, Wavelength, and Electrical Dimensions -- 1.3 The Time Domain vs. the Frequency Domain -- 1.3.1 Spectra of Digital Signals -- 1.3.2 Bandwidth of Digital Signals -- 1.3.3 Computing the Time-Domain Response of Transmission Lines Having Linear Terminations Using Fourier Methods and Superposition -- 1.4 The Basic Transmission Line Problem -- 1.4.1 Two-Conductor Transmission

Lines and Signal Integrity -- 1.4.2 Multiconductor Transmission Lines and Crosstalk -- Problems -- PART I TWO-CONDUCTOR LINES AND SIGNAL INTEGRITY -- 2 Time-Domain Analysis of Two-Conductor Lines -- 2.1 The Transverse ElectroMagnetic (TEM) Mode of Propagation and the Transmission-Line Equations -- 2.2 The Per-Unit-Length Parameters -- 2.2.1 Wire-Type Lines -- 2.2.2 Lines of Rectangular Cross Section -- 2.3 The General Solutions for the Line Voltage and Current -- 2.4 Wave Tracing and Reflection Coefficients -- 2.5 The SPICE (PSPICE) Exact Transmission-Line Model -- 2.6 Lumped-Circuit Approximate Models of the Line -- 2.7 Effects of Reactive Terminations on Terminal Waveforms -- 2.7.1 Effect of Capacitive Terminations -- 2.7.2 Effect of Inductive Terminations -- 2.8 Matching Schemes for Signal Integrity -- 2.9 Bandwidth and Signal Integrity: When Does the Line Not Matter? -- 2.10 Effect of Line Discontinuities -- 2.11 Driving Multiple Lines -- Problems -- 3 Frequency-Domain Analysis of Two-Conductor Lines -- 3.1 The Transmission-Line Equations for Sinusoidal, Steady-State Excitation of the Line -- 3.2. The General Solution for the Terminal Voltages and Currents -- 3.3 The Voltage Reflection Coefficient and Input Impedance to the Line -- 3.4 The Solution for the Terminal Voltages nad Currents -- 3.5 The SPICE Solution -- 3.6 Voltage and Current as a Function of Position on the Line -- 3.7 Matching and VSWR -- 3.8 Power Flow on the Line -- 3.9 Alternative Forms of the Results.
3.10 The Smith Chart -- 3.11 Effects of Line Losses -- 3.12 Lumped-Circuit Approximations for Electrically Short Lines -- 3.13 Construction of Microwave Circuit Components Using Transmission Lines -- Problems -- PART II THREE-CONDUCTOR LINES AND CROSSTALK -- 4 The Transmission-Line Equations for Three-Conductor Lines -- 4.1 The Transmission-Line Equations for Three-Conductor Lines -- 4.2 The Per-Unit-Length Parameters -- 4.2.1 Wide-Separation Approximations for Wires -- 4.2.2 Numerical Methods -- Problems -- 5 Solution of the Transmission-Line Equations for Three-Conductor Lossless Lines -- 5.1 Decoupling the Transmission-Line Equations with Mode Transformations -- 5.2 The SPICE Subcircuit Model -- 5.3 Lumped-Circuit Approximate Models of the Line -- 5.4 The Inductive-Capacitive Coupling Approximate Model -- Problems -- 6 Solution of the Transmission-Line Equations for Three-Conductor Lossy Lines -- 6.1 The Transmission-Line Equations for Three-Conductor Lossy Lines -- 6.2 Characterization of Conductor and Dielectric Losses -- 6.2.1 Conductor Losses and Skin Effect -- 6.2.2 Dielectric Losses -- 6.3 Solution of the Phasor (Frequency-Domain) Transmission-Line Equations for a Three-Conductor Lossy Line -- 6.4 Common-Impedance Coupling -- 6.5 The Time-Domain to Frequency-Domain (TDFD) Method -- Problems -- Appendix. A Brief Tutorial on Using PSPICE -- Index.

Sommario/riassunto

A much-needed primer on all aspects of transmission lines for electric and computer engineering graduatesMost of today's electrical engineering and computer engineering graduates lack a critically important skill: the analysis of transmission lines. They need this basic knowledge in order to be able to design high-speed digital and high-frequency analog systems-and this problem will only get worse as the speeds and frequencies of these systems continue to increase. This important text is the remedy. It prepares readers for increasingly difficult design problems in today's ever-changing high-speed digital world, focusing on signal integrity and crosstalk.Class-tested under the author's expert guidance at Mercer University, the book starts by reviewing the fundamental concepts of waves, wavelength, time delay, and electrical dimensions, as well as the bandwidth of digital signals

and its relation to the pulse rise/fall times. It then explains two-conductor transmission lines and designing for signal integrity, addressing the time-domain analysis of those transmission lines and the corresponding analysis in the frequency domain. The terminal voltages and currents of lines with various source waveforms and resistive terminations are computed by hand via wave tracing. This gives considerable insight into the general behavior of transmission lines in terms of forward- and backward-traveling waves and their reflections. The effect of line losses including skin effect in the line conductors and dielectric losses in the surrounding dielectric are increasingly becoming critical, and their detrimental effects are discussed.Next, the book repeats these topics for three-conductor lines in terms of the important detrimental effects of crosstalk between transmission lines, explaining the transmission-line equations for lossless lines, the important per-unit-length matrices of the inductance and capacitance of the lines, and the solution of three-conductor, lossless lines via mode decoupling. The final chapter concludes by investigating the effects of the line losses on the crosstalk of these three-conductor lines.Each chapter concludes with numerous problems for the reader to practice his/her understanding of the material. An Appendix contains a brief tutorial on SPICE (PSPICE), an important computational tool that is used extensively throughout the book. The included CD features several computer programs used and described in this book for computing the per-unit-length parameter matrices and a subcircuit model for three-conductor lines, as well as two MATLAB programs for computing the Fourier components of a digital waveform and two versions of PSPICE.This book is intended as a textbook for a senior/first-year graduate-level course in transmission lines in electrical engineering and computer engineering curricula. It is also essential for industry professionals as a compact review of transmission line fundamentals.